*Higher education should encompass learning and scholarship all the way up to the current frontiers of knowledge, research that pushes the frontiers of knowledge, technology at the cutting edge, innovations to address problems and opportunities in industry / society and finally entrepreneurship that generates wealth in the society.*



# HIGHER EDUCATION IN MAHARASHTRA

## Preparing for the future – New Ideas and Pathways

(Report of the Committee set up by Government of Maharashtra)

July 2011

**Dr. Anil Kakodkar**
**DAE - Homi Bhabha Chair Professor**

7th fl., Central Complex
BARC, Trombay
Mumbai, 400085
August 4, 2011

Dear Shri Tope,

You may kindly recall that the Government of Maharashtra had constituted three committees to look at higher and technical education in Maharashtra. The three committees had the benefit of your guidance in their first meeting on 8th October 2010 at Sayhadri Guest House.

The terms of reference for the three committees have been comprehensive. All the three committees worked in coordination with each other to evolve a consistent approach to higher education. We feel this initiative of the Government has been visionary, considering the key importance of quality higher education in keeping Maharashtra in the forefront of knowledge activities in the new emerging era characterised by innovation, entrepreneurship and knowledge driven economic growth. The challenge before us is to be able to embrace this new paradigm from where we are at present. The dual issue of achieving high level of excellence and enabling wider access would need to be addressed without compromising one for the other. The committee has been conscious about the enormity of this challenge and the need to take some decisive first steps. It may well be that some additional steps would be necessary in future after preparing the ground work to reach the goal that all of us would like to achieve.

The committee is convinced that in the present era of competitive globalised economic growth, growing importance of knowledge in that process, the crucial necessity of mobilising our demographic dividend to constructive development processes through empowerment of youth and the emerging A3 (anyone, anytime and anywhere) society, require an urgent paradigm shift in our approach to higher education. This is important enough to warrant priority investments at a significantly higher level than what they are at present. Investments in this area would also produce maximum dividend in the present circumstances. There is also a danger of very serious negative consequences if this is not done and our youth human capital is not positively channelized with a degree of urgency into constructive and meaningful livelihood opportunities. Finally there is also the all important necessity for sustaining our human values in the wake of technology tending to drive our lives.

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**Dr. Anil Kakodkar**
**DAE - Homi Bhabha Chair Professor**

The apex committee has deliberated on the broader aspects of higher education and has also taken into account the deliberations in the other two committees. The committee has now finalised its report and is happy to submit its report (enclosed). In order to remain focused on the broader issues, the committee has deliberately avoided being detailed and prescriptive and have left that aspect to the other two committees. In that sense the three reports need to be seen as a whole.

The committee would like to thank you and the Government of Maharashtra for this initiative and the opportunity for the committee members to engage in this all important task. The committee would also like to thank University of Pune and the Higher and Technical Education Department for all support it has received in its work. The Chairman of the committee would like to thank all the members for their unstinted support and cooperation in the work of the committee.

With warm regards,

Yours sincerely,

R.A.Mashelkar | Ram Takwale | Arun Nigavekar | Anil Kakodkar

Vijay Bhatkar | Kumud Bansal | Nitin Pujar

R.K. Shevgaonkar | Rajan Welukar | Sanjay Kumar

Shri Rajesh Tope,
Hon. Minister, Higher and Technical Education,
Government of Maharashtra.

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# Preamble

Maharashtra has always been at the forefront of evolving new paradigms, which involve new thought processes. Existence of the largest youth force, rapidly growing economy, emergence of knowledge as a key driver for the economy and the need to quickly bridge the aspiration gaps are all very compelling reasons for accelerating pointers to urgent actions in respect of all encompassing quality higher education in India. Government of Maharashtra, recognising the need for urgent proactive steps in this regard set up three committees to comprehensively look at higher education in the State and to prepare for the current and future challenges.

This Committee, which was tasked to look at higher education at a broader policy level had detailed deliberations to search for practical pathways that would enable transition to a new and desirable higher education paradigm. The knowledge and experience of the members of the committees, meant that soon the deliberations morphed into an opportunity to bring the legacy expertise and knowledge along with the available exhaustive detailing on ideas that members had. It ended up with culling out specific steps for the change to be suggested. Working of the Committee in tandem with the other two Committees tasked to look at the legal framework and the restructuring of University set up in the State respectively was a major advantage in this regard. This enabled the three committees to work on their respective domains in a manner, with consistence and synergy.

The recommendations of this Committee have been necessarily kept at a broad level with more specific and detailed recommendations contained in the other two reports. The committee recognises that search for excellence is an ongoing journey and feels that suggestions made by the committee would make a significant positive impact on the future of higher education, in the state.

The report discusses the history, the problems and the challenges in various chapters in the global and national context while remaining focused on the issues of the State. By design, the committee makes broad recommendations in keeping with the deliberations and recommendations of the other two committees.

The Committee would like to thank the Government of Maharashtra and particularly Shri Rajesh Tope, Hon. Minister for Higher and Technical Education for trusting the members of the committee with this very important assignment. Thanks are also due to University of Pune and the Higher and Technical Education Department for their support to committee's deliberations and work.

## Executive Summary

The Government of Maharashtra has constituted a committee vide sankirna-2010/(160/10)/vishi-4(part 1) of August 23, 2010 to make recommendations with a view to enhance level and quality of higher education in Maharashtra. Concurrently two other committees, one to re-look at the legislative framework and the other to look at restructuring of the university setup in the State, were also set up. The three committees have worked in coordination with each other.

## Education and Socio-Economic Paradigm

Education is the key to character building and socio-economic transformation. Done properly, education can empower our huge human capital to be a major constructive force to propel inclusive growth of the nation as a whole. Quality higher and technical education has the potential to cause a quantum jump in economic status of poorer families in a single generation, thereby maximizing the gains of our rich demographic dividend being added at the base of the pyramid. The socio-economic scene is undergoing a rapid change as a result of impact of new technologies, demographic shifts, the growing economy and several other developmental initiatives. Knowledge is now an important factor in economies world over, a trend that is likely to be increasingly dominate the global and national scene. We need to quickly align our education system to the needs of the changing paradigms in the best interests of our socioeconomic development while remaining aligned with our cultural values and traditions. The so called A3 (Anyone, Anywhere and Anytime) connected society, that is fast emerging, on one side and the digitally illiterate across the digital divide on the other side, constitute major socio economic challenges. These can be handled only on the basis of widest possible access to appropriate education delivered with speed and quality. Urgent actions are necessary on this front to quickly reduce the disparity gap as we move up the economic growth path, lest serious problems as a result of unfulfilled aspirations surface and create potential threats that might become difficult to contain. Luckily the possibility to widely use modern technologies in education does provide an opportunity to create a wider access to good quality education at a fast enough pace thus enabling us to meet these challenges successfully.

**Urgent actions are necessary on this front to quickly reduce the disparity gap as we move up the economic growth path, lest serious problems as a result of unfulfilled aspirations might surface and create potential threats that might become difficult to contain.**

## The Higher Education Challenge

Clearly the higher education challenge for us is three fold, namely expansion, inclusion and excellence. Expansion must occur in order to serve the exponential demand for access to higher education. Inclusion is a must because access must be provided for all, not for a privileged few. And while achieving this, excellence should not be compromised at any cost. Indeed, our vision for higher education must cover several levels to maximize our human capital across the full spectrum of talent and aspirations of our youth. Higher education should encompass learning and scholarship all the way up to the current frontiers of knowledge, research that pushes the frontiers of knowledge, technology at the cutting edge,

**Higher education should encompass learning and scholarship all the way up to the current frontiers of knowledge, research that pushes the frontiers of knowledge, technology at the cutting edge, innovations to address problems and opportunities in industry / society and finally entrepreneurship that generates wealth in the society.**

innovations to address the problems and opportunities in industry / society and finally entrepreneurship that generates wealth in the society. For this purpose all university campuses would need to be transformed to become more holistic learning environments that enrich students with new knowledge and skills to engage meaningfully in the emerging socio-economic transformation. More importantly, a university campus should nurture education and research activities that are alive to the dynamics of the society and industry in the neighborhood and guide and support them not just in terms of human resource but also through relevant studies, research and innovation on the campus and in the university at large.

**There is thus a case for more campuses that can focus on education and research around the needs of the neighborhood. While one can visualize a university with more than one campus, a university without a campus should not be envisaged.**

Opportunities for access to higher education in the State are somewhat unevenly distributed. A more even distribution is necessary particularly in the context of the strong linkage between higher education and development that we seek to create as highlighted above. There is, thus, a case for more campuses that can focus on education and research around the needs of the neighborhood. While one can visualize a university with more than one campus, a university without a campus should not be envisaged. University campuses should pursue academic and research activities across a whole range of disciplines in the true spirit of a university and enable the students and faculty to engage in research and problem solving that push the frontiers of knowledge and bring benefits to the society around.

**With readjustment of the role of teachers, ICT can in fact lead to enhancement of both quality and access to affordable education.**

The entire Education paradigm is expected to undergo a major transformation as a result of Information and Communication Technologies (ICT). There are now opportunities for all to benefit from as well as contribute to knowledge resources. This is a major enabler as we move towards student centric education. Creation of open platforms for research and problem solving that are well tuned to the needs of the neighborhood of a university with individuals and groups working and learning together, regardless of their geographical location, is now a distinct opportunity. ICT already has a significant presence in the distance learning mode in higher education. There is a strong case for greater use of ICT in delivery of education and in the evaluation process. With adoption of a harmonized flexible credit based modular curriculum, ICT can bridge the gaps between dual mode and open university models and make education more universally participative and student centric. With readjustment of the role of teachers, ICT can in fact lead to enhancement of both quality and access to affordable education. The Committee has thus emphasized the need to quickly move and realize full benefits from opportunities available under National Knowledge Network (NKN) and add the necessary local and last mile infrastructure. In parallel, on the academic front, there should be efforts to create new education paradigms to meet the challenges of the future.

**Innovation Ecosystem**

**China has around 300 research parks. Research parks and incubators at each campus are needed to nurture a spirit of innovation and entrepreneurship. A campus in the rural setting should be developed as a Cillage. Similarly, a university research centre should be established at each SEZ.**

Innovation is the key to our competitiveness on the global scene. In order to facilitate innovations based on the research being carried out at the university, there should be institutional arrangements in partnership with industry and neighborhood in the form of research parks and incubators. China has around 300 research parks and many more incubators. Apart from developing an idea into a readily implementable product with the involvement of faculty and students, the presence of entrepreneurs and industry researchers on the campus and their involvement in academic activities constitutes an important element of holistic education. A university campus in the rural setting should be evolved as a Cillage (see details in the report) that interacts with the neighborhood and contributes to the overall development. Neighborhood in turn becomes a fertile ground for defining research to be done in the university. Several Special Economic Zones are being developed. In order to maintain technologies being practiced at such SEZs at the state of art level, a university research centre located in each SEZ would benefit both the university and the industry around.

**Affiliated Colleges**

**Affiliated colleges should get graded autonomy depending on their performance, which should be under periodic review.**

The higher education scene today, however, is dominated by a large number of affiliated colleges. There is a significant variation in the quality of education imparted in these colleges. It is important that depending on the performance of these colleges, they are granted graded autonomy, which should be under a periodic review. This would enable autonomous institutions to innovate and do better within the parameters of their autonomy and at the same time reduce the burden on the university. A flexible credit based modular curriculum, with a degree of harmonization across colleges and later perhaps even across universities, with reasonable choices for students in terms of subjects and teachers/colleges, could make education more aligned to the needs of the students. Such student centric approach facilitated even more by modern ICT and commons processes could in fact enrich education further.

**The Employability Challenge**

**Education should transform our students from being job seekers to become job providers.**

A major challenge before us is to align education to livelihood assurance for every student. For this purpose, not only should the knowledge content be up to date and relevant to the needs of the society and the individual, but more importantly every student, regardless of discipline, should be able to acquire skills related to subjects being studied. As a matter of fact education should transform our students from being job seekers to become job providers. We have proposed creation of facilities for skill education and training as a part of our colleges as well as shared skill education facilities. Synergistic working with private skill education providers should also be explored. We need to

recognize that every discipline would have associated skills. The committee has recommended a comprehensive framework for skill education and training as an add-on to the existing curriculum. A key element in such a framework would be to create sustained linkages with stake holder partnership between prospective employers, development planners, industry associations, society groups and the university as well as colleges at multiple levels like university bodies, districts, education societies and colleges.

**A framework that facilitates mobility of faculty to collaborating institutions for extended periods of even a few years, would enable translation of knowledge to viable real life applications and enrich university programs in turn.**

**Mobility of Faculty and Development of Skills for Knowledge to Value Transformation**

The university programs can become far stronger by faculty engaging in translation of acquired knowledge to viable applications in real life at work places in collaborating institutions. This needs a framework that facilitates mobility of faculty to other collaborating institutions for extended periods of a few years. Such collaborating institutions could be an industry entity, a R&D laboratory, a NGO engaged in societal development or an individual or a group of individuals intending to take up project deployment work. Apart from the benefit accruing as a result of translation of knowledge insights developed in the university, such an exercise also enables the faculty to gain a rich experience related to practical implementation and development of soft skills necessary in the process. Existence of such experienced faculty in the university would be an added asset to creation of a holistic learning environment in the university. Opportunities for students to learn soft skills involved in such a translation process cannot be underestimated.

**Autonomous Examination Boards**

**A flexible credit based modular curriculum, with a degree of harmonization across colleges and later perhaps even across universities, with reasonable choices for students in terms of subjects and teachers/colleges, could make education more aligned to the needs of the students.**

Universities are today burdened with the heavy load of conducting examinations and related activities. This causes a considerable distraction affecting the primary role of the university, which is expected to be a centre of learning where knowledge is continually advanced and ways to use that knowledge for the betterment of society and the environment, explored with full engagement with the students and faculty. It is therefore proposed to entrust the work of conducting examinations in accordance with the requirements and guidance of the university to an autonomous examination board of the university. Such boards should mobilize resources and technology to meet the requirements of evaluation in a timely manner. With flexible credit based modular structure and deployment of ICT, it should be possible to progressively enhance the flexibility available to the students in terms of choice of timing, subjects, teachers/colleges etc.. It should be clear that objective of evaluation and final judgment as well as award of degree would remain within the purview of the university.

**Work of conducting examinations in accordance with the requirements and guidance of the university should be entrusted to autonomous examination boards.**

**Performance Review**

As a part of the continuing efforts to achieve greater excellence, an academic institution should periodically subject itself to comprehensive external peer reviews by a group of eminent peers. Such reviews should take place at various levels including the university, departments, colleges and faculty. The external peer review process should be backed up by a quality assurance framework across the board covering all functions of the university. There should be a system to motivate faculty and staff to continually improve their performance. Such motivations could be in the form of recognitions as well as opportunities and support to do better. While devising motivational systems through monetary rewards, due caution should be exercised to ensure that individual's cognitive abilities are not constrained but rather the innovative spirit and desire to make true contribution and realize self achievement is nurtured. It is well known that very a prescriptive and rigidly quantitative reward system works only in repetitive production environments and tends to be counterproductive when performance based on cognition is involved.

**Universities and colleges should periodically subject themselves to comprehensive reviews by an external group of eminent peers. The external peer review process should be backed up by a quality assurance framework across the board covering all functions of the university.**

**While devising motivational systems through monetary rewards, due caution should be exercised to ensure that individual's cognitive abilities are not constrained but rather the innovative spirit and desire to make true contribution and realize self achievement is nurtured.**

**Autonomy and Governance**

A hallmark of a world class university is its autonomous functioning with a flexible governance model that can quickly respond to the needs of handling a new idea somewhat differently. Such a governance system must be exclusively peer driven and endowed with liberal funding. A university holding a large pool of talent that can in fact become a powerful magnet to attract external talent would become feasible only with such a governance system. Such an autonomous system must remain engaged with the stake holders e.g. students, society, industry and the Government; who support the university both financially and through active participation. Accountability of the university to its stakeholders should be in the form of higher order deliverables such as advancement of frontiers of knowledge, creation of developmental models and applications, being a catalyst for

**A hallmark of a world-class university is its autonomous functioning with a flexible governance model that can quickly respond to the needs of handling a new idea somewhat differently. Such a governance system must be exclusively peer driven and endowed with liberal funding.**

**Accountability of the university to its stakeholders should be in the form of higher order deliverables such as advancement of frontiers of knowledge, creation of developmental models and applications, being a catalyst for shaping the evolution of socio-economic development in the emerging knowledge society particularly in the neighborhood and shaping of self empowered youth who can carry the socio-economic transformation forward in a more meaningful manner.**

shaping the evolution of socio-economic development in the emerging knowledge society particularly in the neighborhood and shaping of self empowered youth who can contribute to the socio-economic transformation forward in a more meaningful manner.

**A stand alone independent legal entity MAHED consisting of academicians, S&T, societal development and industry experts should oversee, facilitate and guide HE institutions in the state.**

Autonomy and governance are perhaps the key enablers to raise our universities to higher levels. In this context the committee has suggested setting up of Maharashtra State Council for Higher Education and Development (MAHED) consisting of eminent academicians, scientists, technocrats, business & industry experts and financial experts. MAHED should be made a standalone independent legal entity with appropriate & adequate autonomy. It would be funded by the State. It would become the conduit for funding of public universities by the State Government and implementation of its objectives of human empowerment and development. In a sense MAHED would become an interface between the Government and the Universities and would oversee, guide and facilitate universities as well as nurture linkages between university activities and regional development. MAHED should play a central role in the matter of appointment of Vice-Chancellors as well as the heads of other bodies to be set up to support higher education framework in the state. MAHED should be guided by an Apex Advisory cum Supervisory Council (AASC) chaired by the Governor on one side and a broad based academic and development council (ADC) on the other. MAHED would be supported by institutions that will organize other functions to support universities which include support of undergraduate evaluation services, establishment of knowledge and related services network, quality assurance and accreditation and open resources related empowerment services. We need to create institutional set ups to manage these functions. MAHED should maintain an oversight and guide these institutions in discharge of their respective functions.

**The university should be entrusted in the hands of academicians with proven track record as adjudged by peers within and outside the university. It is the mature peer process rather than electioneering that should prevail in the university. The committee recommends that the elections should be done away with.**

The university affairs should be entrusted in the hands of academicians with proven track record as judged by peers within and outside the university. It is the mature peer process rather than electioneering that should prevail in the university. The committee recommends that the elections should be done away with. Further the rules that govern the university should lay down principles rather than rigid quantitative and very specific stipulations. The objectivity should be brought in through entrusting interpretation of broad rules and decision making to collegiums. Establishment of collegiums themselves could follow similar processes. We need to change the university acts to bring in these important reforms.

The committee feels that universities would necessarily depend primarily on the Government funding for the present. Development of a new campus would need outlays of the order of Rs.200+ crores. Each campus would also need a recurring support of the order of Rs.10-15 crores annually. Progressively the universities should strive to raise resources and create sufficiently large endowments as well as support to ongoing and new academic and development activities. With greater credibility in terms of academic rigour and development capabilities duly backed up by autonomous governance systems, it is felt that the ability of the universities to raise resources would significantly improve. The committee has proposed some ideas to raise resources in the interim period. These include; granting Special Planning Authority

status to the universities in relation to their campuses, levy of cess for financing higher education and exemption from State and local taxes.

**Granting Special Planning Authority status to universities in respect of their campuses, levy of cess for financing higher education, and exemption from state and local taxes are some ways for raising resources.**

Universities should strengthen their financial management system through augmentation of professional capabilities in this area. Apart from monitoring and audit by the Government, students should know the cost of education they are receiving, donors should know how their contributions are utilized and indeed there should be enough confidence that any support to the university would be put to the best and the intended use.

**Private Education Space and Entry of Foreign Universities**

**The Key is to regulate with a keen sense of bringing in the best and keeping out the operators of doubtful quality, track record and credentials, away.**

India's vast youth population is in search of access to quality higher education that would enlarge their career opportunities. This has already resulted in very significant enlargement of private sector engagement in higher education. Our demographic dividend has been a matter of considerable interest to several advanced countries that need external human resource to sustain and grow their economy. This enlarged interest in the relatively attractive economics of higher education delivery in India has led to conditions that favour entry of foreign universities in India. The capacity development impact of such an engagement will itself be significant, if we can take due care for value to flow into the higher education sector in India. While this undoubtedly would change the landscape, it should necessarily be done with a serious due diligence so that institutions of inadequate quality and unscrupulous elements do not enter the Indian higher education scene. The key is to bring in the best and keep the operators of doubtful quality, track record and credentials scrupulously away.

One more important initiative would be to permit a company registered under section 25 of the Companies Act, 1956 to be a sponsoring body for establishing self financed university. This would be step in the right direction and should be retained. For a large and diverse country like ours, considering large demand for higher education we need to encourage a mix of public as well as private funded Universities with appropriate checks and balances. Over a period of time one could move to develop a framework for Educational Companies under a special act to promote private investment in higher education.

*The work of this Apex committee has been well coordinated with the work of the other two committees. A short summarization of their deliberations and recommendations is also included in sec 17 and 18, respectively. While this, Apex Committee Report, has documented broader recommendations, more specific details are contained in the other two committees' reports. Section 19 contains the overall recommendations of the Apex Committee.*

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## 1.0 Introduction

The Government of Maharashtra vide G.R. dated August 23, 2010 constituted a high level Committee to make recommendations with a view to enhance the level and quality of higher education in Maharashtra. Concurrently the Government set up two other committees. One to revise the university acts to be in tune with the time. The other was to look into the governance issues related to the universities and their affiliated colleges including splitting and / or bifurcation of universities for greater efficiency in operation and to facilitate transformation of higher education to address new challenges as well as enhanced GER. A copy of the GR regarding this committee can be seen in the annexures.

The terms of reference of the three committees clearly reflect the concern of the Government about the declining quality of higher education and the challenges posed by globalization; an urgent need to enhance GER; need to create easier access to higher education for students from weaker sections of the society; importance of enhancing level of research, application of knowledge to development, nurturing innovation and entrepreneurship in higher education; need to enhance employability and such other factors.

Maharashtra at present has nineteen State funded universities under the higher and technical education department. Out of these there is one university each for health sciences and animal and fisheries sciences, four universities for agriculture and thirteen other broad based universities. The scope of the above mentioned committees is limited to these thirteen universities. There are as many as 4000 colleges affiliated to these 13 universities with approximately half of them affiliated to Pune, Mumbai and Nagpur universities each with as many as 550 to 750 colleges. These larger universities have around 5 lakh students each. Managing such a large systems creates a major burden on the universities and leads to distraction from their primary role that is related to the provision of quality education and research.

**There are as many as 4000 colleges affiliated to 13 State funded universities with roughly half of them affiliated to Pune, Mumbai and Nagpur universities each with as many as 550 to 750 colleges. These larger universities have around 5 lakh students each.**

The three committees worked in tandem with significant cross exchange of views and ideas. This committee being the apex committee has restricted itself to broader policy aspects consistent with its mandate. Specific details are covered in the reports of the other two committees.

**2.0 Background: Maharashtra's Tryst with Higher Education Reforms**

Education is the key enabler for raising the quality of life at an individual as well as at the society level. Good quality education empowers individuals and societies to accelerate human development processes even as individuals enhance their own livelihood earning potential and contribute to the growth of the national economy. We are now in an era of rapid economic growth with knowledge becoming an important engine of the drive of the growth. While this has significantly enhanced opportunities for our vast young population, we need to urgently address the question of aligning higher education to meet the existing and emerging needs. These also include the question of visualizing the emerging social change in the background of our traditions and time tested value systems and aligning the knowledge, skills and humanities content in the education system with the needs of society, industry and the national development processes at large. We also need to orient our education system to nurture a spirit of innovation and entrepreneurship that empowers students to develop solutions to current and emerging problems and efficiently implement them to make a difference to the society at large.

Maharashtra has had the tradition of sustained engagement with the process of social reforms and empowerment of people through creating wider access to education. There are several examples where new initiatives that emerged in Maharashtra were later on adopted in the country as a whole.

**Maharashtra has had the tradition of sustained engagement with the process of social reforms and empowerment of people through creating wider access to education**

We need to recognize the rapid change that is taking place in our societies as a result of new emerging technologies. This is leading to serious questions of ethics and adjustment. Today, the so called A3 (Anyone, Anywhere and Anytime) connected society on one side and the digitally illiterate across the digital divide on the other, both constitute major socio economic challenges that can be handled only on the basis of widest possible access to appropriate education delivered urgently.

In the context of the unemployment issue, the education system should much rather produce employment generators rather than employment seekers, leading eventually to greater equity in society. A Higher education framework that facilitates diligent pursuit of knowledge and pushes its frontiers further as well as nurtures a spirit of innovation and technology development; should also be simultaneously helping the employment generation needs. Higher education programs pursued with a mind set of finding appropriate solutions locally are crucial to mobilizing our huge human capital to becoming the engine of development and growth and preventing it from being a drag on the system. Taking into account the fast rising aspirations of our youth in the background of economic growth and an increasingly interconnected world, our higher education system needs an urgent and radical transformation that enables wider access, empowerment, to be the agents of new transformation as, well as livelihood assurance for our youth.

Considering that the population in most industrially advanced countries is ageing, our youth has opportunities not only in India but also in other countries across the world. Investments in higher education when made with astute foresight can result in rich dividends out of our demographic advantage for the individuals concerned as well as the nation at large.

India is already the fourth largest economy of the world in Purchasing Power Parity (PPP) terms, following USA, China and Japan. With 8.5 per cent annual economic growth rate, India will soon surpass Japan and then three major players that will define the world economy would be USA, China and India. Further, with its young population that will remain the world's largest productive population for quite some time, India has an opportunity to lead the world like never before and regain her glory as the most prosperous

nation of the world that she enjoyed till the $11^{th}$ century and continued to sustain till the $17^{th}$ century in spite of several invasions.

World's largest young population, also world's largest pool of scientific and technological manpower, large non-resident Indian Diaspora that has mapped the entire world and earned global acceptability and esteem, progress in science and technology covering atomic energy, space, defense and emerging fields, and particularly India's remarkable accomplishments in Information and Communication Technology (ICT) point towards the emergence of India once again as one of the great nations of the world.

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While the $21^{st}$ century certainly presents a golden opportunity for India, a large majority of Indians (80 cr out of 120 cr) are beset with many burning problems threatening their very survival. With rapid pace of globalization, the spread and severity of these problems is growing rapidly over last two decades. The complexities of these problems are so high that there exists little ground to believe that our people may be able to overcome many of these severe problems in a foreseeable future by resorting to traditional means and methods.

To assert once more, Maharashtra has had the tradition of playing a leading role in India's socio-economic transformation. What Maharashtra does is emulated by other States in some form or other. The key to the socio-economic transformation is education at all levels and it is in this context of leading India's experience as a potential world-leading nation, that we must look at reforms in Maharashtra's education system, particularly in higher education.

**3.0 Global Higher Education: Context, Learnings and Challenges**

The World Higher Education (HE) Scenario is a fascinating story of scale, society, trade and access to talent, both intra society as well as that of talent from the best crucibles of intellect across the world.

The US has arguably the most evolved higher education system and has been the model that has seen multiple modes evolving from models of pre and post World War era. It's leadership in the science and technology space has a direct correlation to its rich and varied HE model. Europe on the other hand has been the showcase of state investment and freewheeling access to its citizens in Higher Education. Australia and New Zeeland have largely borrowed from the US model and now, lead the way in providing HE as a service to the hordes of Asian, ethnic Chinese and Indian consumers of HE. The China, Korea, Japan and Far East nations have largely followed models, which comprise public investment led for China, private investment led for Korea, mixed investment modes for Japan and Far East. Thus there appears to be no fixed model that has worked, but the fact that each and every nation has public investments in HE is a given.

This involvement of the State has meant that welfare states have now to face the reality of high GERs becoming increasingly difficult to deliver in terms of sheer costs and pressure on their economies. In the case of private provision, the high GERs again bring in the need for additional regulation in order to keep quality and delivery up. The economies that have been working towards being the preferred destination for HE for students who have sought global mobility to get education like Australia, face the challenges of keeping their services competitive on both cost and quality front.

**With WTO mandates applying to all the nations equally, the world is set to not just be a global village, but a global village classroom!**

With WTO mandates applying to all the nations equally, the world is set to not just be a global village, but a global village classroom! With the ubiquity of technology that changes the way the world communicates, it is to be expected that the world will change the way it learns and teaches too. Intellectual leadership will no longer be limited by communication pathways and traditional knowledge silos built around brick and mortar institutions. Innovation is likely to be the way forward for the survival of nations, societies and individuals. Thus, the need for HE will be felt acutely and demand is only expected to grow exponentially across both developed and developing nations.

Intellectual Property will be the next challenge for nations to ring fence and draw value from, thus the relationship between technology, education, competition and social development will manifest itself in how HE works with and for society.

This is the challenge for the world. With our demographic advantage this is both a challenge as well as an opportunity for India.

**4.0 The Vision and Challenge for India**

Clearly the higher education challenge for India is twofold, one of access and inclusion and the other of quality and, in terms of excellence, that of nurturing of talent and delivery. Our vision for higher education must cover several levels to maximize our human capital across the full spectrum of talent and aspirations of our youth. Traditionally, India has the potential to be at the forefront of knowledge activity through her research and scholarship. In the present-day knowledge driven economy, our large and talented youth population needs to be nurtured to vastly enhance our global impact through advancement of frontiers of knowledge. As India moves up on a rapid economic growth path and occupies a place among few top countries in the world, we would need to further hone our innovation capabilities and skills. This is essential to strengthen our capability to translate new knowledge into new technology and products ahead of other countries.

For this purpose we need to create comprehensive innovation and entrepreneurship ecosystems that incorporate research, as well as technology, development and commercialization along side high quality higher education. While innovation and technological capability is the key to our successful engagement at the global level, we also need to develop innovative solutions to address challenges at home such as boosting rural and agricultural economy, social empowerment and bridging the economic as well as digital divide.

Our universities need sustained efforts to develop solutions as well as train our youth to implement them in the society at large. Further our higher education system should bring out youth sufficiently empowered in terms of knowledge and skill base so that their employment is not an issue and as mentioned earlier, they preferably turn out to be employment generators rather than employment seekers. To be able to assess and match capability, talent and aspirations to genuinely maximize happiness and social well-being is perhaps the vision that HE system should have. To devise such an ecosystem that is Indian as well as global, is the minimum one can hope for.

**As India moves up on rapid economic growth path and occupies a place among few top countries in the world, we would need to further hone our innovation capabilities and skills. This is essential to strengthen our capability to translate new knowledge into new technology and products ahead of other countries.**

We need to ensure that education is oriented towards the needs of the citizens of India while remaining engaged and open to the world for opportunities of getting and sharing value. We need to devise an innovative regulatory framework that nurtures and regulates the HE sector in order for it to become a leader in terms of intellect, knowledge and relevant skills for development solutions and their translation into socio-economic transformation.

Such a system needs an autonomous governance structure with credible peer oversight. Accountability to the Government and the society should be essentially for higher order deliverables such as contributions in terms of advancement of frontiers of knowledge, technologies that add value, strategies that prepare us for the future, human resource at different specified levels and quality, their employability etc. The rest of the management of the system should be autonomous and determined by the criteria of excellence as adjudged by the peer group. Such a system should be able to hold a large pool of intellect and talent that in fact becomes a magnet for attracting external talent. Financially, such a system should be well endowed and liberally funded to be able to innovate on promising new ideas in a manner most appropriate.

**5.0 Higher Education Scenario in India**

**The Governing Matrix**

The Ministry of Human Resource Development is the leader at the Centre on matters related to policy and direction for HE. The States have been empowered to concurrently operate, manage and implement their own initiatives and projects in this space under an overarching policy and guideline scenario. The University Grants Commission and various professional councils, such as All India Council for Technical Education (AICTE), Medical Council of India (MCI), Council of Architecture (COA), etc, have over the years been controlling the provision and development of HE programmes and infrastructure. State Governments have legislated and caused to be devised, various authorities, institutions and bodies to spread the higher education infrastructure across their sate level jurisdictions. The Central dispensation on HE has also included National Institutions such as the IITs, IIMs, NITs and a plethora of directly funded HE providers. Suffice to say we have a three-tier structure of Central, State and Local Private bodies operating HE institutions across India.

The UGC has been the funding body that has managed the diverse and challenging multi state and multiple priority task of institution building, managing and quality control through its offices.

The Councils in the Professional and Technical areas have been the connectors to industry and gatekeepers of quality and needs of various acknowledged professions. These Councils have also played a leading role in enabling specific technical professional programs and subjects to help deliver education through Private Institutions across the country.

The Challenges of expansion, development, quality and sheer subject leadership, to be delivered across the vast nation, as well as of aspirations and expectations from HE are extremely high. The regulatory and the governing scenario that has evolved due to this has taken a form of management by legislation and in some cases has evolved as a result of series of litigations.

**As aspirations, driven by India rising from poverty and engaging with opportunity, bring in more and more of our vast youth population into the domain of HE demand, the provision is woefully short due to the sheer numbers involved.**

As per the 2007 statistics, published in 2010 by MHRD GOI (Government of India), there are 406 University level Institutions in India with 23099 colleges. Total enrollment is estimated to be 1.70 crore students across all HE courses. This constitutes a GER of 13.79 for the nation as a whole.

**The Future as it Unfolds**

As aspirations, driven by India rising from poverty and engaging with opportunity, bring in more and more of our vast youth population into the domain of HE demand, the provision is woefully short due to the sheer numbers involved.

Quality and Quantity are both needed and thus, are an abiding challenge for India.

We need to evolve a framework that can address these rapid expansion as well as quality enhancement needs effectively. One could think of restructuring the sector to include private, foreign and government funded providers to operate in a transparent regulatory environment that encourages investment, quality and a societal yield that may be measured as return on investment in addition to social empowerment. Examples of choice, competition and market demand delivering value to the average citizen of India through open regulatory structures in aviation, financial services and telecom have been validated already. Taking a leaf from there, HE needs to be able to move forward to ride the wave of delivering education to reap the yield of development, quickly. While we should recognize that such a change cannot happen overnight, we need to create a framework that can facilitate such a transition in a manner that

enhances access. It is clear that Government would need to take proactive steps for this purpose including augmentation of its own support to Higher Education.

**The Private Sector Engagement History**

The Governments at the Central and State levels have traditionally funded HE in India. The private trusts and societies have also been working hand in hand with the governments by starting aided institutions specially schools and colleges and later un-aided institutions through the sixties and seventies.

**We need to evolve a framework that can address these rapid expansion as well as quality enhancement needs effectively.**

The surge of participation in the education space has been the highest in the last decade or so. This is clearly apparent in professional and technical education and of course medical education. While some states have shown remarkable private participation some others have not been able to work up participation at all. This is where the Government role in balancing out the access has been crucial. The Private sector has always been a volume driver in high demand areas, by disciplines or by sheer geography. This has resulted in pockets of high access and delivery in states like Tamil Nadu, Karnataka, Andhra Pradesh and Maharashtra as well as some states of the north.

**The Proposed Foreign Education Providers Entry**

Foreign Education Providers appear to be very keen on working with India for its sheer high demand and high potential intellectual capacity youth resource.

Some economies like the US, UK and Australia have seen tremendous interest in fully paid international students from India that have actually, in some cases, helped bring their own citizens' cost of HE delivery down.

Apart from this basic case of export of education services and import of talent, these countries have realized the value of education delivery capacity being the next frontier of trading in services.

We need to deal with this situation in a manner that brings us benefits and avoids or minimizes the negative impact. By encouraging the presence of essentially the leading universities, we could bring in quality transformation through improved pedagogy and a holistic approach to learning that incorporates teaching, research, innovation and entrepreneurship, all together. This will be a win-win situation for India if we articulate working between leading universities & HE providers to up the ante and gain from this interest. In this context we need to recognize that a large number of Indian youth anyway go abroad for higher education at their own cost. Bringing in leading Universities of the world to operate in our country would thus not only benefit the education scene in here but also retain a significant national wealth within the country.

The capacity development impact of such an engagement will itself be worth opening the sector, with due care, for value to flow into the HE sector in India. While this undoubtedly would change the landscape, it should necessarily be done with due diligence to prevent institutions of inadequate quality and unscrupulous elements from entering the Indian HE scene.

By encouraging the presence of essentially the leading universities, we could bring in quality transformation through improved pedagogy and a holistic approach to learning that incorporates teaching, research, innovation and entrepreneurship, all together.

The key thus, is to regulate with a keen sense of bringing in the best and keeping the operators of doubtful quality, track record and credentials away. Various Bills and Regulations have been proposed and should be expected to make the entry of Foreign Providers a value add to HE rather than a value drain.

While the entry of foreign education providers is likely to mean considerable challenge to our Universities and Institutions in the short term, they need to work carefully to enable, empower and engage themselves to gain from this.

**The key thus, is to regulate with a keen sense of bringing in the best and keeping the operators of doubtful quality, track record and credentials away. Various Bills and Regulations that have been proposed should be expected to make the entry of Foreign Providers a value add to HE rather than a value drain.**

The Government of Maharashtra is currently working on a bill to provide for establishment of the Self-Financed Universities in the State to regulate their working and functions. This committee has provided detailed comments for consideration of the Government. With the establishment of Maharashtra State Commission for Higher Education and Development (MAHED) as recommended in this report, one could entrust the task of regulatory oversight, both during formation as well as running of such a University, to MAHED.

One more important aspect in the original proposal was to permit a company registered under section 25 of the Companies Act, 1956 to be a sponsoring body for establishing such a university. This would be step in the right direction and should be retained. For a large and diverse country like ours, considering large demand for higher education we need to encourage a mix of public as well as private funded Universities with appropriate checks and balances. Over a period of time one could move to develop a framework for Educational Companies under a special act to promote private investment in higher education.

**6.0 The Higher Education Scenario in Maharashtra**

Maharashtra has always been in the lead relating to HE and this has a lot to do with priority to education being an articulated and key focus of leaders as well as society at large. Maharashtra has a slew of State Legislations that have been in consonance with the Central Policy and Legislative tenor and has also been known to lead with innovative structures and initiatives.

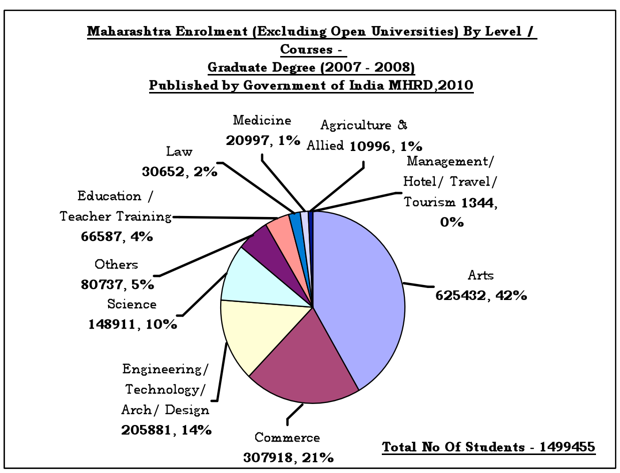
The University Culture in the State was led by Mumbai, Pune and Nagpur and then evolved through universities in Aurangabad, Kolhapur and later other locations in the State. This has been supported well with Institutions of repute established by the Centre and the slew of Private Institutions run by legendary trusts, societies and local bodies. Development and outreach by the Universities has been mainly through the Affiliating College systems and have had a large impact on sheer access. The Open University movement manifest in the form of the YCMOU has also been a major initiative that has brought GERs up to almost 18 % plus for the State.

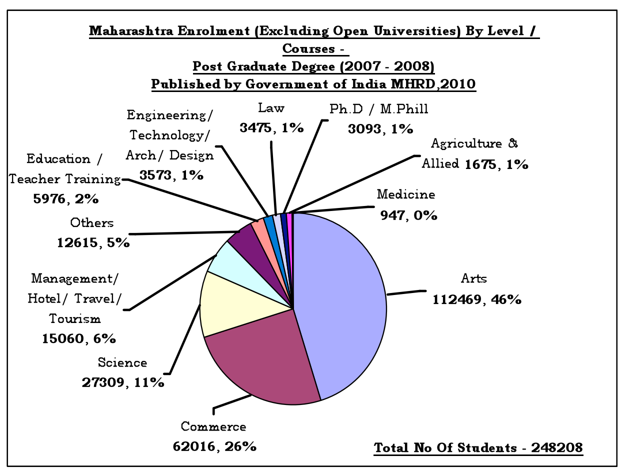
The Mumbai Pune Corridor has seen a large focus on HE development and consumption by Industry over the years. This skew is only offset by the Nagpur, Nasik, Sangli/Kolhapur belt as the second focal area seeing good HE activity.

The Regions of South East Maharashtra and Marathwada and Vidarbha have been lagging but are fast enabled and seek to find their own place in the HE provision pace.

The Agricultural University System and Medical Health Sciences University along with the Women's University (SNDT), have rounded off the specific purpose and focus needed by Maharashtra, in its wisdom of seeking to enable society through Institution building in HE.

As per 2007 statistics, published by MHRD GOI in 2010, Maharashtra has 42 Universities and 3258 colleges. Total enrollment is 30.82 lakh students. The GER for Maharashtra is 18.



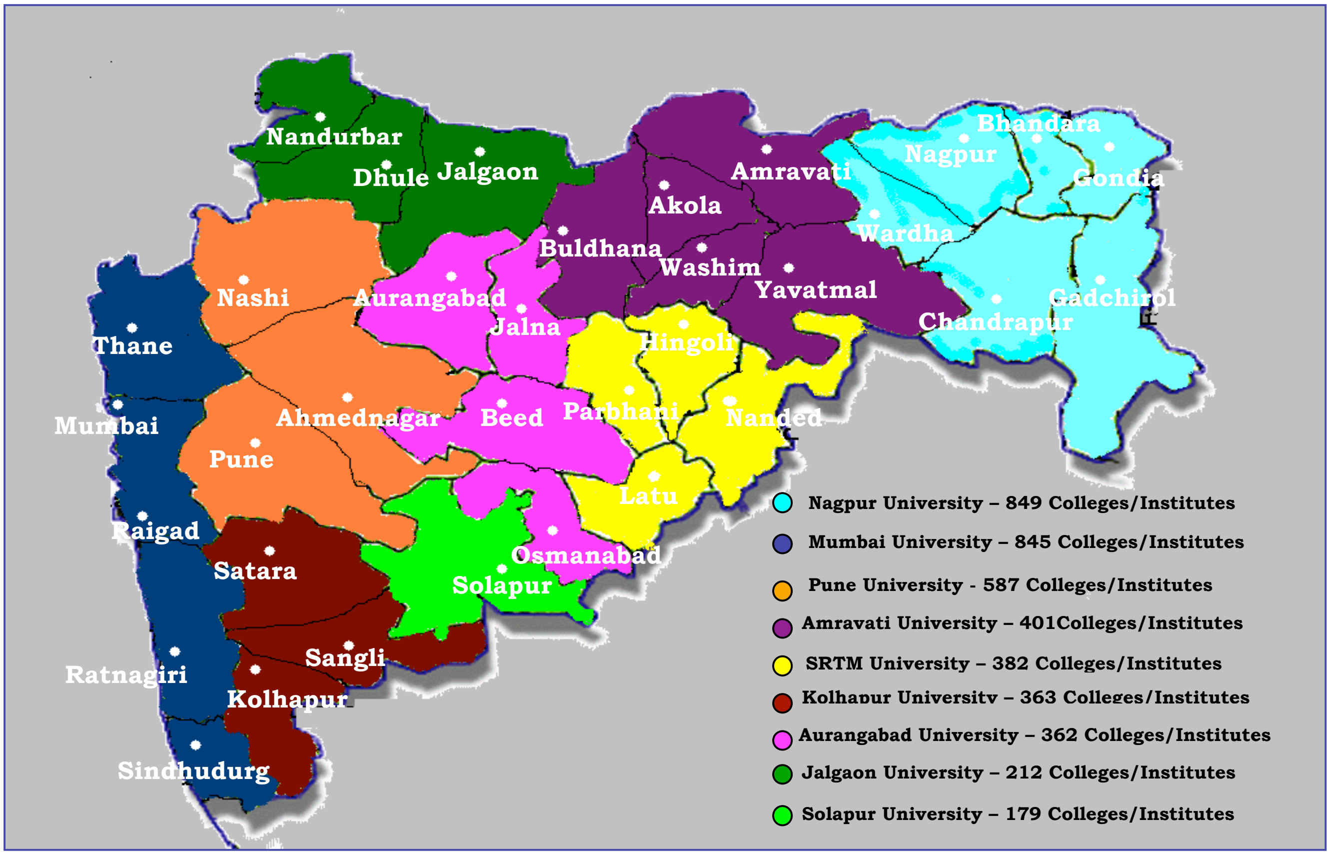




Both Graduate and Post Graduate HE candidates have enrollments in Arts and Commerce leading the numbers. This is to be expected, but lack of vocationalization and skill development gaps drive a lot of students into employability issues at the end of their higher education stints.

There is a wide variation in terms of quality as well as dispersion of education facilities and related ICT infrastructure across the State. Employability of students graduating from higher education institutions has also become a major issue.

**Maharashtra Public University Jurisdiction, Dispersion & Number of Affiliated Colleges**

**Based on 2008 Data Published by Government of India MHRD,2010**




The Map above clearly points to the key University System challenges. The Affiliating System has loaded the Universities of Mumbai, Pune and Nagpur with the challenges of operations, administration and local college level aspirations that leave all stakeholders and society at large wanting reform at both macro and micro level. Regional disparities in terms of industrialization, developmental goals, economic parameters and even simple reach of technology add to the need for differential approaches and tactics to be deployed. This in turn has resulted in differential quality and related issues.

**Grading of Public Universities as per UGC**

| Sr. No. | Key Public Universities | Grade |
|---|---|---|
| 1 | Shreemati Nathibai Damodar Thackersey Women's University, Mumbai | Five star |
| 2 | University of Mumbai | Five star |
| 3 | University of Pune | A |
| 4 | Dr. Babasaheb Ambedkar Marathwada University, Aurangabad | B+ |
| 5 | Rashtrasant Tukadoji Maharaj Nagpur University | B |
| 6 | Shivaji University, Kolhapur, Maharashtra | B |
| 7 | North Maharashtra University, Jalgaon | B |
| 8 | Swami Ramanand Teerth Marathwada University, Nanded | B |
| 9 | Sant Gadge Baba Amravati University | B |
| 10 | Kavi Kulguru Kalidas Sanskrit Vishwavidyalaya, Nagpur | Not graded |

**Grading of Deemed Universities as per UGC**

| Sr. No. | Key Deemed Universities | Grade |
|---|---|---|
| 1 | Indira Gandhi Institute of Development Research, Mumbai | A++ |
| 2 | Gokhale Institute of Politics & Economics, Pune | A+ |
| 3 | Tata Institute of Social Sciences, Mumbai | A |
| 4 | International Institute for Population Sciences, Mumbai | Not graded |
| 5 | Central Institute of Fisheries Education, Mumbai | Not graded |
| 6 | Institute of Armament Technology, Pune | Not graded |
| 7 | Tata Institute of Fundamental Research, Mumbai | Not graded |
| 8 | Visvesvaraya National Institute of Technology, (REC) Nagpur | Not graded |
| 9 | Mahatma Gandhi Antarrashtriya Hindi Vishwavidyalaya, Mumbai | Not graded |

**Grading of Private Deemed Universities as per UGC**

| Sr. No. | Key Private Deemed Universities | Grade |
|---|---|---|
| 1 | **Bharati Vidyapeeth, Pune** | A |
| 2 | **Datta Meghe Institute of Medical Sciences, Wardha** | A |
| 3 | **Symbiosis International University, Pune** | A |
| 4 | **D. Y. Patil University , Pune** | A |
| 5 | **Narsee Monjee Institute of Management Studies, Mumbai** | A |
| 6 | **D. Y. Patil University , Navi Mumbai** | A |
| 7 | **Deccan College Post-Graduate & Research Institute, Pune** | B++ |
| 8 | **Tilak Maharashtra Vidyapeeth, Vidyapeeth Bhavan, Pune** | B+ |
| 9 | **Pravara Institute of Medical Sciences, Ahmednagar** | Not graded |
| 10 | **D.Y. Patil Educational Society, Kolhapur** | Not graded |

The Grading of various University Institutions by UGC reflects the fact that in a lot of cases the current audit and quality assessment methods reflect a nuanced difference amongst such institutions.

The Grade A and above appear to be those that have a base in the cities or urban agglomerations and those that have a lower grade typically from the second tier metropolitan areas. This is both an opportunity as well as a challenge. Private Deemed Universities show the same trend.

Maharashtra is well positioned to offer both access and better employability with this very strong infrastructure when compared to some other states of India. The key is to invest in making the entire infrastructure work together as a single eco-system.

An ecosystem that can bring aspirations of youth and ambitions of business and industry together, to use knowledge, research & development is needed. This may be done with strong government support through adequate funding, positive regulation, reforms through legislative intervention, investments in ICT, well-articulated and controlled private participation initiatives.

**7.0 Our Legacy Infrastructure: Universities & Affiliated Colleges**

The Indian higher education scenario is characterized by a large system of affiliated colleges linked to a University which, at times, lacks high quality education and research activity on the campus. An environment of development, innovation and entrepreneurship is practically absent. In absence of high quality research that excels in terms of pushing frontiers of knowledge as well as development of implementable solutions for the society and/or industry, there is little connection between the University and the society except in terms of aspirations of students for getting a degree.

**Indian higher education scenario is characterized by a large system of affiliated colleges linked to a University. In China there are no affiliated colleges. The entire higher education is on University campuses of around 1000 acres which typically house 25,000-40,000 students each with an adjoining science and technology park which may be four times larger. Budget of a typical Chinese university is well above a billion RMB.**

In spite of attempts for reforms by several of our thinkers and educationists, our higher education system still has a large imprint of the legacy left by the British. As a result our higher education system today largely comprises of teaching of a defined set of subjects in affiliated colleges with little connections with skills for implementing practical applications based on what is taught in the classroom. Further in absence of an environment of research in most of these institutions, teachers and their teaching have not kept pace with moving frontiers of knowledge. Education that our children receive in most cases is thus not up to date and lags behind in terms of what they are expected to contribute. The students coming out of colleges are thus not adequately equipped and fall considerably short of the needs of a relevant career or the expectations of prospective employers. There is thus a large gap between the state of higher education today and what would be a desirable situation for higher education as described earlier.

Having said this, we must recognize that several of our educational institutions have made significant contributions towards the freedom movement, social reforms of all hues and contribution to the world pool of knowledge. In absence of problem solving capability however, we seem to have more activists who can identify problems but a relatively smaller number of experts who can solve problems.

At this stage it would be useful to recount the higher education scene in China. There the entire higher education is on University campuses. There are no affiliated colleges. All students stay on campuses, which typically house 25,000-40,000 students each. A campus could be around 1000 acres with an adjoining science and technology park, which may be four times larger. Budget of a typical university is well above a billion RMB.

Clearly the situation in our country is different. The system of affiliated colleges has come to stay. We need to realize the goal of enhancing the relevance and the quality of education to meet the emerging 21st century challenges and needs, taking into account the present-day ground situation as well as the challenge of greater access to education.

Our approach to education must remain holistic. However, it is clear that while education in affiliated colleges should strive towards becoming holistic particularly making use of modern ICT, there would be limitations in terms of infrastructure and comprehensive approach to education. It has thus become necessary to distinguish the primary role expected to be played by affiliated colleges in contrast with the role to be played by university campuses.

We need to recognize the inevitable reality that only a relatively smaller number of students can be provided higher education on university campuses even as we strive to enhance such capacity which in fact is an important necessity.

While the primary focus of education at a university campus would be to create a holistic learning and development environment in a knowledge driven mode, that in an affiliated college would inevitably be to create empowered youth equipped with core knowledge as well as related vocational skills. This does not mean or signal any value judgment but rather recognition of a practical reality. To the maximum extent possible, we should encourage research in affiliated colleges. Also exposure to relevant skills remains an important part of education on a university campus. Both these aspects are key objectives of higher education.

The Open University system of education introduced and adopted in Maharashtra and India, has shared a large enrolment (about 20 %) of the total enrolment at tertiary level. The national and state policy is to increase that non-formal enrolment to increase GER and expand access to education. At an entirely different level open access to higher education also has a key role in boosting inclusiveness, where reach is an issue and/or lifelong learning a valuable societal goal.

**While the primary focus of education at a university campus would be to create a holistic learning and development environment in a knowledge driven mode, that in an affiliated college would inevitably be to create empowered youth equipped with core knowledge as well as related vocational skills.**

The A3 connectedness with use of higher generations (2G and 3G) of mobile communication and connectivity and consequent virtual intimacy is creating entirely different and fast deployment processes, which could be used both in face-to-face and distance learning-teaching systems. The gap between the dual mode of education (formal & distance education modes) in traditional dual mode universities and formal and open universities can now be bridged and the systems can be integrated by using the New Age processes and mechanisms. This would create Open Learn channel of learning and teaching in which education can be linked with places of living and working. A3 connectedness, can thus be integrated with all programs, either partially or fully, by integrating and supplementing the educational and social developmental processes.

**8.0 A New Paradigm by Linking Education with Social /National Sustainable Development**

UNESCO has identified two programs; one is the Millennium Development Goals to be achieved by 2015; and another is to link education with sustainable development during the decade of 2005-2014. Both these programs are adopted by India, however higher education programme seems to have done little contribution in addressing the issues involved and in achievements of the goals.

Linking education with sustainable development of national and social nature is a rather difficult task. Currently there are some extension activities such as NSS, Adult and Continuing Education, etc. The policy framework of UGC of 1976 has prescribed the extension as the third dimension of education, the other two being teaching and research. However the extension has always remained peripheral and is not given any curricular status. One of the main reasons for this has been that the learning and development are not yet curricular and credit based in a formal classroom dominated education. This is a limitation of the system as such. Non-existence of tools and techniques used in the education system that can measure learning and development is also an important reason. While emphasis on learning is accepted, the same is not the case with development performance outcomes, as the results of learning. It is therefore essential to carry out research on the tools for measuring developmental achievements at the UG and PG levels.

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This difficulty in the existing education model and methodology is removed if education is considered as a vehicle for social development and transformation and Mahatma Gandhi's concept of learning for development and learning from development is used (The so called samavaya in Nai Talim) as the basic processes of education. This is achieved through work-centric learning in which work process and results are improved continuously through activity, assignment and project based studies of local problems (situated problems). This is education by identifying subject related problems faced by society and technology use and solving them through real life work. Every problem needs inputs of added knowledge and technology in the problem solving process and in getting outcome through high quality socially useful and productive work (SUPW). This work centric learning approach leads to the socio-economic development and is an essential element in the New Education philosophy and methodology (constructivist learning approach) required in the A3 connected society. Education is then linked with places and problems of working and living. The colleges and universities can play a role of helping students in their quest of solving their problems of self and social development. The committee proposes adoption of an approach that would progressively facilitate transition from the current model of education, which is primarily the legacy of pre-independence era, to work centric learning based New Education in the A3 and L3 society for techno-social development and transformation. There should be a continuous movement to mobilize greater support to capacity and capability development of a student. The performance results obtained by a student through individual and group working can create/add to personal and social wealth. This helps students in learning as well as in his/her contribution to the pool of knowledge obtained so far. This also becomes the basic approach of linking education with social transformation.

**The committee proposes adoption of an approach that would progressively facilitate transition from the current model of education, which is primarily the legacy of pre-independence era, to work centric learning based New Education in the A3 and L3 society for techno-social development and transformation.**

The New Education brings in many new processes that can be promoted and used in the 21st Century connected society. Firstly, development is a multi-dimensional process and needs a group and collective working to obtain results. This therefore needs group cooperative working and learning. The performance results lead to a work output that can have market or trade value and help in generating wealth of monetary and non-monetary nature. Since the value so created is the work output of a group, small or big, it contributes to the group or social wealth, which can be preserved as social learning and developmental commons to be shared by all concerned. This process can be made mass-collaborative by using devices like wiki processes as used in Wikipedia or on You Tube. Mass collaboration can create commons that can raise and enhance social organization strength and capacity to joint action to achieve results that are of common interest. All these new processes make the New Education entirely different and empowering for creation of New Age society. (The report of the Committee III further discusses this in detail).

**9. Knowledge Based Innovation, ICT- Enabled Society, A3 Connected Society**

Albert Einstein had remarked that, the problems cannot be solved at the same level of awareness at which they are created.

The gravity of problems related to HE and urgency for finding and implementing their solutions demand fundamental breakthroughs, out-of-the-box thinking and knowledge-based innovations. Such innovations may be developed and deployed by young minds that are carefully cultivated to search for their own inner strengths and creative potential, to synthesize knowledge-based solutions with less or no material and energy inputs and dedicate them for enabling desired social transformation.

**With innovation being the key to game changing strategies and fastest wealth generation, we need to establish large innovation eco-systems. Such systems should enable large groups; engaged in education of young minds at the highest levels, in research to push frontiers of knowledge and in entrepreneurship to transform ideas into engines of social transformation or commercial products; to work together in an ambiance of open minds and readiness to engage across the interface of these individual domains.**

A novel synthesis of higher education system with a built-in developmental process for catalyzing the self-search of these young minds and nurturance of their creative potential for economic and social transformation thus becomes the highest priority of the Apex Thinkers and Policymakers of Higher Education.

It is now increasingly appreciated that the imaginative, better, cheaper, faster and widely accessible solutions to such chronic problems will not arise from consistently failing traditional approaches borne out of limited common sense of non-experts but will require deep research and highly skilled expertise and collective intelligence of the masses. It has to become the core mission of higher education and research institutions. The students and teachers should be able to participate in actual work processes towards solution of these problems, gain knowledge and insight through work and apply that knowledge to produce more wholesome work.

We are now in the era of a knowledge driven economy. To sustain in this new era we need to produce knowledge workers in large numbers who can contribute value at the highest possible level in this new domain. A quality higher education system that can meet this challenge is the need of the hour.

With innovation being the key to game changing strategies and fastest wealth generation, we need to establish large innovation eco-systems. Such systems should enable large groups; engaged in education of young minds at the highest levels, in research to push frontiers of knowledge and in entrepreneurship to transform ideas into engines of social transformation or commercial products; to work together in an ambiance of open minds and readiness to engage across the interface of these individual domains.

The spirit of innovation should be aimed not just at wealth generation but also towards inclusive development that generates wealth to the maximum extent possible at the base of the pyramid. This necessitates pursuits of scholarship and research in a wide range of disciplines in the true spirit of a university. Such pursuits are essential features of any evolved society and have a strong rationale of their own.

The digital revolution in the present day world presents important opportunities in the field of education as well. It is now possible to connect teachers and students in virtual classroom mode regardless of the physical distance between them. Subject-content developed in one institution can now be accessed by

several institutions regardless of the distance between them. Students can audit a course at a time and place of his/her choice.

Library resources are now available in digital forms such as text, audio, video, etc. and can be accessed through diverse means such as digital storage media, cable and Internet. Above all such knowledge and data resources are now a part of wiki processes that constitute open platforms on which everyone can benefit as well as contribute.

**The digital revolution in the present day world presents important opportunities in the field of education as well. Education can now be made more flexible and learner centric more easily. Even more importantly, one of the major challenges before us, the challenge of managing large numbers, can now be addressed more effectively with the new technological possibilities that exist now.**

Education can now be made more flexible and learner centric more easily. Even more importantly, one of the major challenges before us, the challenge of managing large numbers, can now be addressed more effectively with the new technological possibilities that exist now.

Yet another feature of the new paradigm is the A3 (anyone, anywhere, anytime) connected society that is emerging. Instant access to open resources that is now possible for any one has enabled learning process to be a lifelong activity with a degree of flexibility that one may desire.

The recently released book by Clayton Christensen and Henry Eyring entitled 'Innovative University' (John Wiley & Sons, 2011) brings out the fact that a disruptive technology, online learning, is at work in higher education. This will allow both for-profit and traditional not-for-profit institutions to rethink the entire traditional higher educational model. Such dramatic changes are likely to take place even within a decade. And therefore, our higher education policy has to have an inbuilt dynamism to adjust to such changes.

## 10.0 University Campuses: The Multicore Lattice of India's Future Innovation Ecosystem

### A Comprehensive Ecosystem

A comprehensive campus; that is home to a large pool of talent, houses up to date education programs leading up to frontiers of knowledge as well as research that pushes the frontiers of knowledge and leads to cutting edge technology to addresses key challenges, promotes engagement with society and industry to nurture an innovation ecosystem and creates opportunities for students to get trained in the art of lifelong learning and addressing problems before the society; is the key prerequisite of a quality higher education program. For this purpose, the campus infrastructure needs to accommodate a holistic set of activities covering a whole spectrum of innovation ecosystems in relation to society and industry.

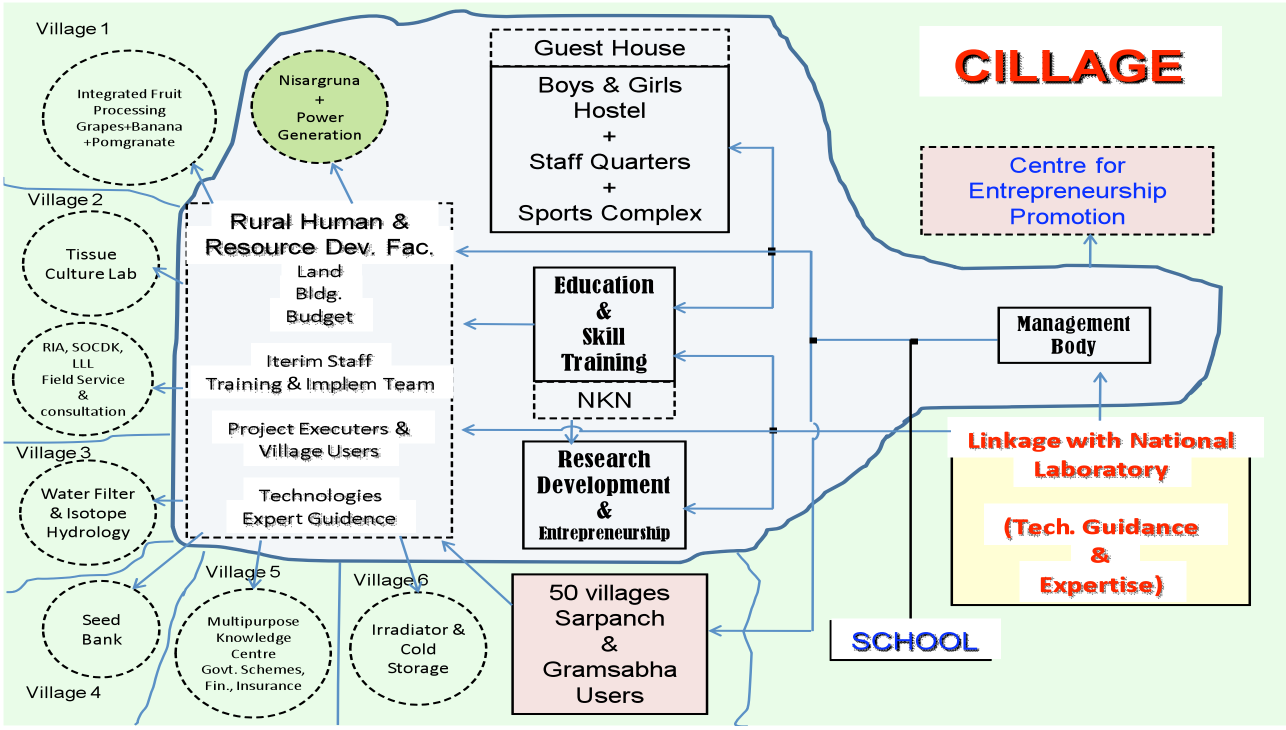
**A university campus should support high quality education for undergraduate students in an ambiance of advanced research and an engagement with society and industry around, on real life issues. Postgraduate education should be at the frontiers of knowledge with significant research and problem solving activity that may involve capability in multiple disciplines and advanced application skills. Research on the campus should be at the cutting edge that pushes the frontiers of knowledge as well as encourages innovation and entrepreneurship leading to new technologies/ solutions for the society/industry.**

### Learning and Research Infrastructure

The committee strongly recommends that the infrastructure at the campuses of our universities should be enriched and more fully utilized to nurture and sustain a holistic learning environment. Such an environment should support high quality education for undergraduate students in an ambiance of advanced research and an engagement with society and industry around, on real life issues. Postgraduate education should be at the frontiers of knowledge with significant research and problem solving activity that may involve capability in multiple disciplines and advanced application skills. Research on the campus should be at the cutting edge that pushes the frontiers of knowledge as well as encourages innovation and entrepreneurship leading to new technologies/ solutions for the society/industry.

### Model for Societal Engagement

Such an ambience should also encourage societal engagement as a part of efforts to make knowledge activities in the university more relevant to society. Faculty at such campuses should orient their teaching and research in addressing some of the major challenges before the society in a coordinated interdisciplinary effort. In order to facilitate such objectives, it is important that the industry and institutions engaged in societal development are present on the campus or in an adjoining area and are fully engaged with university students and faculty. A model of engagement of university activities with neighborhood in a rural setting being developed in BARC is shown in the figure below. (Cillage-An eco-system that incorporates the best of a city and a village- a model for development for rural India) Such an infrastructure creates opportunities for students to study in an ambiance of real life activity based learning that is holistic and moulds research on the campus more focused to solving of problems before the society. Neighborhood benefiting from the research, development and demonstration activities of the campus is an added advantage.




Such a campus should be self sufficient in terms of facilities for education, research, development and society outreach activities on one side and urban amenities including school education, medical, sports and entertainment facilities with employment/ work opportunities for spouses. It is important that through such and other possibilities, we create attractions for competent youth to find lucrative career and entrepreneurship opportunities as well as a highly satisfying way of life in rural India. This would accelerate rural development as well as help retard migration to urban areas. New campuses in rural areas should pursue such a model.

**Engaging with Industrial & Business Entities**

One could develop models for development of university campus in urban areas following a similar philosophy. Relevant industries, particularly their R&D should similarly have presence and engagement with the university on the campus with opportunities for students as well as faculty to participate in industry relevant/sponsored research, innovation and entrepreneurship. In the industry context, we should consider setting up a research park at each of our university campuses. Apparently China has 300 such research parks. In India we have one at IIT Madras at Chennai. Governance structure and mode of interaction between university and industry/institutions need to be designed carefully to ensure a sustainable innovation culture that benefits both sides. With the concept of SEZs taking roots, it would be important from a long term perspective to establish a comprehensive university campus at each SEZ that is being envisaged. Teaching and research at such campuses should be specially oriented to the needs of the industry in the SEZ without losing the character of holistic learning. Presence of several industries on the campus and in the neighborhood would add value to the learning process on part of students.

**University Campuses Define a University Systems' Vision**

Here we need to distinguish between setting up of a university and setting up of campus of a university. It is the later that the committee would like to stress upon. Also each such campus should possess all features described above. While each university could have one or more campuses, a university without a full-fledged campus should not be envisaged. For a large and industrially advanced State like Maharashtra the existing large university campuses are too few in number (only 2 campuses are above 600 acres and 4 in the range of 200 acres plus . Thus besides enriching and strengthening existing campuses there is a need to set up more campuses. Eventually one could envisage a university campus in every district. This will enable a proper emphasis on knowledge, development and human resource activities in the context of local needs. While establishing a new campus, attention should be on future needs. It should be very desirable to link a new campus to one of the better run existing campus which could mentor the new campus.

**The Interdisciplinary Focus**

We also need to recognize that conceptually the focus of university learning should be necessarily broad. There are several technical universities around the world. But all of them have strong departments in other areas like humanities, management, economics etc. besides pure sciences. Such universities recognize the importance of these disciplines in development and implementation of technology focus solutions. The campus of such university is usually as large or larger as compared to other so called general university. Our approach to higher education should move in the direction of progressively increasing number of campuses (eventually one per district as mentioned earlier) covering all disciplines. Such an approach would create strong synergy between higher education and development in the region. Centralizing affiliation of all colleges in a particular discipline in a single discipline based University would run counter to this philosophy.

**While stressing on the need to significantly enriching existing university campuses, the committee would also like to stress on setting up more campuses (eventually one in every district) with programs and infrastructure development specific to present and emerging socio-technological needs of the neighborhood. Focus of university learning should necessarily be broad. A university without a full fledged campus should not be envisaged.**

**Affiliating College Support & Development Role**

Considering that our universities have a large number of affiliated colleges which would need to continuously evolve their delivery of education, ongoing research and development in education in the context of emerging national needs and changing paradigms. Developmental research should remain an important activity on the university campus. We need to work out detailed strategies for transforming our education paradigm to be in tune with evolving social paradigms. Education related programs should facilitate transformation of education to become learner centric transgressing the organizational boundaries. We should even enable students to choose to audit some courses at institutions other than the place where they are enrolled. With an ICT enabled examination body, modular course structure and a flexible credit banking system this can be realized. Together with faculty in affiliated colleges this should lead to continuous updating of syllabi in individual subjects as well as greater choices for students in terms of electives and teachers.

**Preparing for Self Learning Systems due to proliferation of Technology**

We should also provide for a culture of self learning in a systematic way. With the advent of commons processes relating to knowledge and educational resources, this culture is set to grow and become a part of lifelong learning as well as collective working to address issues before society. Our students should become an integral part of such activities with due focus on their surroundings. In the A3 connected society and university community of learners, while working individually or in a group or pariwar or community of interests, it becomes essential to use self-organization and groups governance that need not be and cannot be supervised by teachers and guides. In fact A3 connectedness imparts freedom to each one to connect to group and to virtually or really work together locally or globally. This is a new feature and function every university and education institution should be promoting by nurturing a culture of self-governance and appropriate use of autonomy or freedom by remaining within the framework of the Indian Constitutional values and principles.

**While devising motivational systems through monetary rewards, due caution should be exercised to ensure that individual's cognitive abilities are not constrained but rather the innovative spirit and desire to make true contribution and realize self achievement is nurtured. It is well known that very prescriptive and rigidly quantitative reward system works only in repetitive production environment and tends to be counterproductive when performance based on cognition is involved.**

**360° Evaluation as a Culture**

Performance based assessment of the faculty and a system of graded rewards and recognitions would go a long way in promoting excellence in our universities. Parameters of performance should be defined in a transparent manner. These should cover the entire domain of key university activities such as teaching as assessed by a $360^0$ evaluation process, research as manifested through peer reviewed publications, recognitions from external peers such as fellowships of recognized academies, impact of technology development and transfer on downstream users, engagement with society/industry/external funding agencies as reflected by external resources brought in, quality of service provided for various university functions and activities, etc.

**Reward Systems**

Rewards could be in the form of a set of pre-announced awards, named chairs, more liberal opportunities to participate in international conferences, etc. There could be other monetary rewards that top up the compensation according to government norms. This can be done through funds that the university can mobilize through non-governmental resources. While devising motivational systems through monetary rewards, due caution should be exercised to ensure that individual's cognitive abilities are not constrained but rather the innovative spirit and desire to make true contribution and realize self achievement is nurtured. It is well known that very prescriptive and rigidly quantitative reward system works only in repetitive production environment and tends to be counterproductive when performance based on cognition is involved.

**Resource Raising Ability: The True Quality Index**

Universities must be encouraged to raise their own resources even as Government enhances its support to universities. In fact ability to do so is also a measure of university performance. Clearly autonomy, alumni impact and credibility with society and industry are some of the important aspects that would lead to higher ability to raise resources.

**ICT: The Core Reform Opportunity**

Today we are in an era of A3 connected society with the possibility of near universal access to knowledge resources, limited only by digital divide that is likely to be bridged very soon. National Knowledge Network is an important development that is currently taking place. Maharashtra should move fast in deriving fullest advantage of this new possibility. Through such an approach all universities in Maharashtra could get involved in creating open learning platforms. With wiki processes gaining importance day by day, such open learning platforms could well be transformed into research platforms to support several research activities that are highly relevant in the social context. We should thus aim at interlinking academic and research programs on the campus, in the affiliated colleges and through open platform processes; with campus providing a fulcrum that links off campus activities with those on the campus particularly in the context of development oriented research. This mode can overcome some of the shortcomings in existing Open University framework and benefit the education system from their experience in terms of course delivery over long distances. More importantly the research and development potential in social contexts can be multiplied manifold.

**National Knowledge Network is an important development that is currently taking place. Maharashtra should move fast in deriving fullest advantage of this new possibility. Through such an approach all universities in Maharashtra could get involved in creating open learning platforms. With wiki processes gaining importance day by day, such open learning platforms could well be transformed into research platforms to support several research activities that are highly relevant in the social context.**

Eventually such connectivity should be extended to university outreach activities with industry, society and school education system to enable universities to play their fuller role and for rest of the society to derive fuller benefits from universities.

## 11.0 Affiliated Colleges: Towards Autonomy, Flexibility and Skills Development Outcomes

Affiliated colleges have been the back bone of bulk of the higher education scene in India. This situation is likely to remain so in the future too.

### Autonomy

There should be a sustained effort to evaluate and enhance the quality of education the affiliated colleges impart. Those colleges that meet specified benchmarks through an accreditation process should be encouraged to do better by granting step by step autonomy that enables them to innovate and excel in terms of development of academic programs and the student evaluation processes. The university oversight on autonomous colleges should be graded with highest grade performers having least oversight. This graded process itself should however be under a periodic review and the level of autonomy readjusted depending on the assessment to ensure that quality is sustained. Such an approach enables better performing colleges to innovate their programs within their autonomy on one hand and reduce the burden on the university including that relating to student evaluation, on the other. Even as we progress towards making colleges more and more autonomous on the basis of their performance, the autonomous colleges should remain involved in the university affairs as they can bring in a relatively more enlightened approach from locally relevant social development perspective and share best practices benefitting the university functions. There are several examples of institutions moving to higher and higher level of excellence with progressive increase in autonomy. Institute of Chemical Technology in Mumbai is a shining example. The process of granting graded autonomy could culminate eventually in reaching a status of a full fledged stand alone University.

**Colleges that meet specified benchmarks through an accreditation process should be encouraged to do better by granting step by step autonomy that enables them to innovate and excel in terms of development of academic programs and the student evaluation processes. The university oversight on autonomous colleges should be graded with highest grade performers having least oversight. This graded process itself should however be under a periodic review and the level of autonomy readjusted depending on the assessment to ensure that quality is sustained.**

### Post Graduate Teaching & Research

While we are stressing on postgraduate education and research as the main part of activities on the campus, there should be every opportunity to pursue such programs in colleges as well. Such programs enable sustaining and nurturing faculty talent, impact undergraduate education positively and lead to enhanced institutional excellence. Through such programs several student projects that have social relevance can be supported. Colleges should also strengthen their linkages with postgraduate programs in the university and other academic institutions.

### Focus on Skills for Employability

At undergraduate level, education at such colleges should strive to enhance vocational skills and employability of students. For this purpose the management of such colleges should recognize the needs of the job market and bring in the relevant skill development content in every program that the college delivers. It is possible that the existing faculty at the college level may not be equipped to bring in such content. Use of adjunct or visiting faculty or even outsourcing may be a way out.

Delivering education spanning a diverse set of courses essential to fulfill equally diverse needs and choices of students by a small single college is usually very difficult. Things become even more difficult when professional and vocational skill based courses are the choices of students, which are essential for linking education with livelihood and wealth creation. It is therefore essential to develop a framework of integrated education delivery through distributed college consortia networks to fulfill the needs and demands of the learners in his/her development, self as well as socio-economic needs.

**As a part of learner centric approach, entire academic program should be modularized credit based with a degree of flexibility on part of students to choose the courses they would like to audit. As long as they earn a specified minimum number of credits at the institution in which they are enrolled, they should have the freedom of choosing courses offered by other institutions with transfer of credits to make up the requirements for getting a degree.**

There are a number of private skill education providers on the market now. They are fulfilling an important necessity in terms of employability of young people. Linking such skill education activities with the contents of the core curriculum and their concurrent delivery would be a worthwhile enrichment that should be aimed at.

In order to widen the choices for acquisition of skills the committee in a subsequent section is proposing an approach to massive enlargement of skill development opportunities. Identification of skills relevant to course contents and mobilizing resources for such skill training should be a joint ongoing exercise between the colleges, society, industry and government entities in a neighborhood. In this context it is important that the relevant stake holders are adequately represented in the college affairs including at the apex management level.

Each college must subject itself to periodic audit process to assure all stake holders of the desired quality and relevance. There should be a process of ranking based on stakeholder feedback.

**Credit Modularity**

As a part of learner centric approach, the entire academic program should be modularized credit based with a degree of flexibility on part of students to choose the courses they would like to audit. As long as they earn a specified minimum number of credits at the institution in which they are enrolled, they should have the freedom of choosing courses offered by other institutions with transfer of credits to make up the requirements for getting a degree.

### 12.0 Program for Massive Enlargement of Skill Development Opportunities

The Committee recommends a skill development program (both soft as well as hard skills) for undergraduate students as an add-on to the existing curriculum. The aim of this program would be to enhance employability of students as they come out of colleges. We feel that comprehensive skill content can be added for every stream of students.

Development of such content can be done jointly by the college and relevant stake holders in the neighborhood such as industries and societal institutions. Resource persons for delivery of such content can be regular or adjunct faculty as well as faculty drawn from outside.

**The College as Nucleus**

While the college itself should make its facilities (class rooms etc.) available for the purpose and also out source such an activity to private skill education providers where feasible, consideration should be given to creating common facilities in each taluka/district which can be used by colleges in a time sharing mode. In addition to class rooms such facilities should house gadgets/equipment for imparting practical skills relevant to needs of the area and core discipline of students. It is suggested that a specified percentage from the outlays for development programs in the taluka/district may be earmarked for meeting the capital expenditure of such facilities to be set up and operated in PPP mode.

**The Committee recommends a skill development program (both soft as well as hard skills) for undergraduate students as an add on to the existing curriculum. In addition to developing in-house facilities and outsourcing, consideration should be given to creating common facilities in each taluka/district which can be used by colleges in a time sharing mode. In addition to class rooms such facilities should house gadgets/equipment for imparting practical skills relevant to needs of the area and core discipline of students. It is suggested that a specified percentage from the outlays for development programs in the taluka/district may be earmarked for meeting the capital expenditure of such facilities to be set up and operated in PPP mode.**

**The Linkage to Job Skills**

The aim of such facilities should be to create job ready youth to meet the needs of the region including more particularly the needs of new employment expected to be generated through development programs in the neighborhood.

**Multi Stakeholder Management Body**

Management of such facilities should be entrusted to a body constituted for the purpose. The composition of such a body should include apart from Government nominees, representatives of colleges, industries and societal institutions in the region. Such a body should be chaired by a senior educationist of the region. Day to day management of such a facility should be handled by professional industry associations like CII,Maratha Chamber of Commerce, FICCI or other such bodies.

**Raising Funds: Industry – Government Alliances & Linkage of Government Projects**

Operational expenditure for running such a facility should come from industry/student fees/sale of products made by trainees etc. Industry sharing a major share of such expenditure as a part of its corporate social responsibility would be a valuable contribution to the society apart from benefitting the industry itself through better job readiness on part of students. Such facilities should also engage themselves in community / industry oriented projects funded by the Government as well as industry. Such projects would provide valuable opportunities to students to learn relevant skills in implementing such activities and at the same time add to resource generation of the facility.

Government could create appropriate tax concessions to incentivize industry support (30A, 80G was mentioned). Government may also consider a recurring support in specific cases depending on the need. Industry should also pay a small stipend to students to the extent they contribute to their output after an initial period of training.

We need to recognize that such vocational content can be added to practically every discipline. Development of soft skills may be relevant in many cases. There are several programs of the Government as well as industry that depend on participation of students with ICT related skills. (e.g. opportunities under national mission for education through ICT.) An additional skill content as a part of this program could be towards ability to participate in commons processes aimed at generating data bases relevant to development in the neighborhood.

**We need to recognize that vocational content can be added to practically every discipline. The university should spell out the minimum time to be spent by the student for skill development and the level of proficiency expected. The facility/ college would carry out the evaluation of the students and give them a certificate. This should be one of the prerequisites that need to be fulfilled before qualifying for a degree.**

**Defining & Measuring Skill Inputs**

Universities should spell out the minimum time to be spent by students for such skill development activity and the level of proficiency expected. This should be one of the prerequisites that need to be fulfilled before qualifying for a degree. Exact scope of skill sets to be covered would need to be decided by the local management body. The aim should be to reach a level of employability considered adequate by relevant employers.

The facility/ college would also carry out evaluation of the students and give them a certificate. It is recognized that level of skill oriented training in different places may vary. However local stake holder interests as well as enhanced employability would motivate the process towards relevant skills of the required quality. The local management body would need to be flexible and accommodate new emerging ideas and proposals that are consistent with the basic objective. A continuous process of enhancement of value addition capability on part of students should be aimed at.

**Enabling Skill Development as a Vision Initiative**

It would be necessary to examine likely impediments in the process of establishing such a framework and make legal enablement if considered necessary, through changes in legislation relating to higher education.

**13.0 Autonomous Examination Boards: Towards Reforming Evaluation Processes & Systems**

Examination or rather evaluation is an important element of any education activity. Ideally a student should be examined by his/her teacher as a part of teaching a particular course. Choice of mode of examination should be with the teacher. While we should strive to reach as close to this ideal situation as possible, (and the process of creating autonomy for better performing institutions/programs would be a move in that direction), all our universities are burdened with huge load of conducting examinations for a large number of students particularly at undergraduate level. This burden often causes a large distraction from the core activities, discussed earlier, that a university should be busy with. It is therefore suggested that the work load of conducting examinations should be entrusted to an autonomous examination board of the university. Such a board should conduct examinations in accordance with the stipulations of the university and provide formal documentation of results of examinations conducted to the university and to the students. Decision and grant of degrees would continue to be a matter for the university to deal with. Such Boards need to be provided with necessary statutory status that empowers them to enforce accountability of resource persons that they mobilize.

**Ideally a student should be examined by his/her teacher as a part of teaching a particular course. Choice of mode of examination should be with the teacher. While we should, in principle strive to reach this ideal situation, all our universities are burdened with huge load of conducting examinations for a large number of students particularly at the undergraduate level. This often causes a large distraction from the core activities, a university should be busy with. It is therefore suggested that conducting of examinations should be entrusted to an autonomous examination board of the university. Such a board should conduct examinations in accordance with the stipulations of the university and provide formal documentation of results of examinations conducted to the university and to the students.**

It is recognized that the transition to uniform modular credit based academic structure with an autonomous examination/evaluation board would be possible only with a well designed ICT backbone with a large repository of question banks as well as other evaluation tools linked to a course curriculum. The transition to both formative and summative evaluation processes with distribution between internal and external evaluation modes should be made a smooth process beginning with the current status on the ground in a time bound fashion. An empowered autonomous board backed up by a dedicated body to establish and operate a comprehensive ICT based knowledge and development network and related services, being recommended by the committee, should be in a position to deliver on this requirement.

The autonomous examination boards can also facilitate credit sharing/banking and lead to other examination reforms such as online examination that students can take at a time of their choice after minimum stipulations are fulfilled.

Such autonomous boards could also do the ranking of colleges and teachers in a transparent way to facilitate student choices as well as healthy competition leading to better quality.

One can also envisage examination boards being asked to conduct examinations to be held at college level to bring in a degree of independence and uniformity of standards. One would also need to recognize the need for greater involvement of supervisor/guide and case specific handling of project or thesis evaluation particularly at post graduate level. In case of multi-disciplinary/development oriented projects, evaluation should focus on the depth and grasp related to the core discipline of the student as well as on assessment of problem solving effort and its results/impact through multidisciplinary and/or translational mode.

**14.0 Towards Excellence in Our Universities: Governance, Resources & Talent Quality**

World Bank has identified three important characteristics of a world class university.

A University should hold and nurture a large pool of high level talent that acts as a magnet to attract talent from other places. Further a model University should be endowed with large resources so that it can develop and implement programs that it thinks are important. Finally the university should have a flexible governance system that can identify an important emerging idea and give it a preferential treatment to rapidly move it forward. It should be our aim to move towards these objectives. We therefore need to create conditions that favor such a change.

**Academics Led Peer Based Management**

Key to this would be to entrust university affairs in the hands of academicians with proven track records as judged by peers within and outside the university. It is the mature peer process rather than electioneering that should prevail. While the former nurtures excellence, the later is a leveler that leads to mediocrity. Today the university structures seem to be driven more by the letter and less by the spirit of rather rigid rule based processes. Academic logic under such circumstances becomes secondary at times. To improve this situation, elections should be done away with. Further the rules should lay down principles rather than rigid quantitative and very specific stipulations. The objectivity should be brought in through entrusting interpretation of broad rules and decision making to collegiums. Establishment of collegiums themselves could follow similar processes. We need to change the university acts to bring in these important reforms.

**It is the mature peer process rather than electioneering that should prevail. While the former nurtures excellence, the later is a leveler that leads to mediocrity.**

**Autonomy Backed By Funding**

Autonomy of universities is another crucial element. In the matter of appointment of Vice-Chancellor as well as other functionaries on the university, the decision making process should be peer driven and based solely on functional considerations.

There should be set norms in terms parameters like student to faculty ratio; technical support staff; teaching, laboratory, library, ICT and other infrastructure and its upkeep; proportion of students at different levels and in different streams etc. University should receive an assured budget on the basis of such pre-decided norms and its decision making in terms of recruitment and other expenditure should become fully autonomous within the parameters of public spending.

**Governance Through Broad Stakeholder Participation**

The Management body of a university should have representation/ advice of all stake holders including faculty, affiliated colleges, government, industry and society bodies and academics from universities with higher ranking. Such a body should set bench marks of performance in terms of expected deliverables with respect to human resource development, research excellence, technologies/solutions, society/industry engagement and outreach, employability etc.

In order to make the interface between the university and society more responsive to the needs of the society as well as to the university programmes it is suggested that the Senate be replaced by an advisory body titled as " Society Partnership Council (SOUL)". SOUL should be a bridge between the university system and the various stakeholders in the Society. Indeed this is of critical importance for public

universities as they depend of the tax payer's money. SOUL should in a true sense reflect, through nominated membership, various stakeholders in the university. The Chancellor (Governor) would be Head of SOUL and the entire membership of SOUL representing various shades of stakeholders would be nominated by the Chancellor from amongst the names suggested by the Vice Chancellor.

**Modularized Credits: Driving Inter – University Courses and Cooperation**

The Academic body of the university would need to be tasked with evolving a modularized credit based structure with a degree of uniformity across different universities in the State. This should facilitate transfer of credits leading to broader choices for students in terms of them benefiting from learning and research opportunities available in the State. This would also facilitate collaborations across different universities for addressing major challenges before the State of Maharashtra. Affording flexibility to learn at a speed convenient to individual student would be another gain that should be realized.

**University should have strong linkages with national laboratories and industry/society through their physical presence on the campus for activities that enrich a holistic learning environment. Such presence could be in the form of an academic centre, a research laboratory or a major collaborative project. Mobility of academics and researchers is the key to maximize the benefit of such arrangements and should be given special attention.**

**Mobility Of Teaching Talent**

Mobility of academics and researchers is an important feature for making research more collaborative and relevant, apart from bringing in fresh ideas. There must be greater flexibility in induction of talent through lateral entry (regardless of age), adjunct appointments, visiting positions etc. Benefits from such the induction of talent in terms of academic enrichment, high impact research, ability to handle larger projects as a result of a wider capability base and greater ability to translate research outcomes to other domains cannot be understated. In the context of universities working together to address some of the important challenges before the State of Maharashtra this modality has added significance.

**Focus On Linkages**

Linkages between a university and proximate research institutions in terms of faculty and student sharing in programmes of individual institutions as well as conduct of joint programmes in education and research brings in excellent synergy in the context of students, faculty as well as the institutions concerned. There are several examples of such collaborative efforts. The success in most of the cases has been due to perseverance of people involved. Universities and institutions in the neighborhood should strive to go an extra mile to facilitate such initiatives and derive optimum benefits from available resources. The committee strongly recommends serious efforts towards rejuvenation of our existing institutions, many of whom have had glorious past, through comprehensive participation and involvement of proximate quality institutions at multiple levels. Government should take up special projects with adequate funding to raise the level of some of the important higher education and research institutions in the State. From the perspective of students such arrangements create vastly added opportunities while they are at the university, as well as in their later professional career.

**Universities: Holistic, Practical, Research Driven Societal Development Engines**

Universities should strive to create a holistic learning environment on their campus. This would involve high level research programmes at the frontiers of knowledge that bring recognition to the university as a world class seat of learning causing translation of new knowledge into technologies in an environment

where society as well as industry are a partner in development and nurturing an innovation eco-system that propagates social engineering skills and entrepreneurship among students as they go through the learning process under the guidance of the best gurus, is always critical.

Realising such an environment is a tall task. However we should aim to create a framework that would facilitate movement towards such a goal in a progressive manner without allowing degenerative tendencies to creep in. Further we need to bring in additional dimensions like research parks (on lines of IIT-Madras), technology incubators and other engagement entities to translate university research to commercial domain, coordinated projects involving multiple faculty groups from several disciplines that address some important issues before the State, engagement between the campus and the neighborhood at multiple levels to enrich the learning environment etc. Universities while they enrich the learning ambiance through such measures could also generate significant resources and also attract external talent to participate in research activity of higher relevance. It is absolutely important that in making such a transition the academic rigour is not diluted but rather strengthened. This is a difficult task and should become a prime engagement of enlightened academic visionaries of the university.

**University as well as different departments/programs of the university should be subjected to periodic review by eminent groups consisting of members of international standing. Results of such reviews should be discussed in the management and academic bodies of the university for follow up action as necessary and shared with all stakeholders.**

**Skill Development Focus: Catalyst for deriving Value For All**

One of the important recommendations of the committee is to add significant skill development content (both hard as well as soft skills) to the undergraduate curriculum. Identifying the skills to which the students need to be exposed should be a decentralized process that takes into account the local needs, training facilities available, emerging needs taking into account new employment opportunities. Even so the potential skill development opportunities related to each subject should be made visible by the university to affiliated colleges. Also the broad scope of such skill development programs and expected level of proficiency to be attained should be defined at the university level. University also should maintain an oversight on these programs at the college level and put them through a process of accreditation. University academic bodies may seek advice from industry, government agencies and other experts for this purpose.

**Reviews: Reality Checks & Re – Visioning**

University as well as different departments/programs of the university should be subjected to periodic review by eminent groups consisting of members of international standing. Results of such reviews should be discussed in the management and academic bodies of the university for follow-up action as necessary and shared with all stakeholders.

**15.0 Linkage between Government and University: Using Knowledge to Drive Development Through A Perpetually Sustainable Investment & Funding Model for Universities**

As stated earlier, maximizing human capital (both in terms of number of individuals and their capabilities at higher levels) through education and skills relevant to the needs of a growing economy is an urgent necessity both to accelerate economic growth as well as to enhance the quality of engagement of individuals in industry and society. Growth in public investments in higher education sector should thus be a matter of highest priority. Indeed such investments would produce maximum dividends.

Need to Link Higher Education to Government Led Development Initiatives

There is also a need to link higher education with the development plans of the State. Universities are excellent think tanks and an intelligent work force that should be capable of working on grand challenges before the State. Such challenges offer important opportunity for coordinated research efforts involving faculty, students and society as a part of a statewide exercise. Some examples of such challenges could be: reversal of migration to urbanized areas through strategies to grow rural income and opportunities in rural areas, safe drinking water, defining optimum development pathways in different regions of the State, food and energy security etc. Each one of such challenges to be handled in our universities would mean considerable enrichment of our higher education and research environment.

We thus need a bridge between the State Government and the public university system in the State.

**It is proposed to establish Maharashtra State Commission for Higher Education and Development (MAHED) which would become an interface between the Government and the University and would carry out functions of oversight and linkage between university activities and the regional development. MAHED should be guided by an Apex Advisory cum Supervisory Council (AASC) chaired by the Governor on one side and a broad based academic and development council (ADC) on the other.**

**MAHED: Proposed Structure to Lead and Govern the University System**

It is therefore proposed to establish Maharashtra State Commission for Higher Education and Development (MAHED) consisting of eminent academicians, scientists, technocrats, business & industry experts and financial experts. MAHED should be made a standalone independent legal entity with appropriate & adequate autonomy. It would be funded by the State. It would become the conduit for funding of public universities by the State Government and implementation of its objectives of human empowerment and development. In a sense MAHED would become an interface between the Government and the University and would carry out functions of oversight and linkage between university activities and the regional development. MAHED should play a central role in the matter of appointment of Vice-Chancellors as well as the heads of other bodies to be set up to support higher education framework in the state. MAHED should be guided by an Apex Advisory cum Supervisory Council (AASC) chaired by the Governor on one side and a broad based academic and development council (ADC) on the other. MAHED would create and be supported by institutions that will organize other functions to support universities. This includes establishment of a knowledge and related services network, Quality assurance and accreditation, Under Graduate Evaluation, Vocational Studies and Open resources related empowerment services. We need to create institutional set ups to facilitate these functions. MAHED should maintain an oversight and guide these institutions in the discharge of their respective functions.

For efficient management of the academic system in the State we need to develop a cadre of academic administrators to professionally manage various functions related to our universities. An institute should be set up to train and orient staff and officers who are expected to discharge various university administrative functions in our universities. Such an institute should provide both induction training as well as periodic refresher and augmentation training for university administrative staff and officers.

**Towards A Perpetually Sustainable Investment & Funding Model for Universities**

**The committee strongly recommends full financial support for our universities from the Government. Even so in order to explore new avenues for raising resources, among other things, it is proposed to confer the status of Special Planning Authority to the University under the Maharashtra Regional and Town Planning Act through suitable notifications. Done with proper checks and balances with MAHED oversight, this may in fact enrich the learning environment as has been the experience with some of the top universities abroad.**

The committee is convinced that in the present era of competitive globalised economic growth, growing importance of knowledge in that process, the necessity of mobilising our demographic dividend to constructive development processes through empowerment of youth and the emerging A3 (anyone, anytime and anywhere) society, require an urgent paradigm shift in our approach to higher education. This is important enough to warrant priority investments at a significantly higher level than what they are at present. Investments in this area would also produce maximum dividend in the present circumstances. There is also a danger of very serious negative consequences if this is not done and our youth human capital is not positively channelized with a degree of urgency into constructive and meaningful livelihood opportunities.. A new campus would typically need around Rs.200 crores capital outlay with around Rs.15 crores recurring annual budget to sustain its activities. This would be in addition to salary budgets. There are other elements of expenditure related to Government supported institutions. The committee strongly recommends full financial support for our universities and higher education institutions, from the Government Universities and higher education institutions should also strive to attract funding for R&D projects from concerned funding agencies on a competitive basis.

Even so it would be in order to explore new avenues for raising resources. For this purpose following could be considered:

(1) A university could be granted the status of Special Planning Authority for the university townships, where the township area exceeds 100 acres. As per MRTP Act, the following are the functions of a Special Planning Authority: -

i. Carry out survey and prepare the land-use plan of the area

ii`Prepare and submit a draft Development Plan for the area for the approval of the Government (to ensure that such development is carried out in a manner that enriches the academic environment, MAHED should be empowered to do so on behalf of the Government.) and also their modifications from time to time as may be necessary.

iii Formulation of Development Control Regulation for regulating and controlling the use of land and the manner of development in the Notified Area.

iv The SPA will also have the power for removal of unauthorized construction or encroachments.

The above provisions are critical for any Development of a University Campus/ University Township as they provide a legal framework / support for all planning and development activities within the University of International Standards and practices without hindrance from any Authority other than the State Government (MAHED). Such Special Authorities are also planned for Special Economic Zones in Maharashtra, and as such constitute a best practice for overall development efficiencies.

**Autonomy in functioning of an university is an important factor in enhanced donor support. Universities should strengthen their financial management system through augmentation of professional capabilities. There should be confidence that any support to the university would be put to intended use in the best possible way.**

It would, therefore, be necessary to confer the status of Special Planning Authority to Universities under the Maharashtra Regional and Town Planning Act through suitable notifications.

As a part of such campus development effort several facilities in the campus can be shared with the society at large (where necessary this can be on a time sharing basis). These would include restaurants, recreation and sports facilities, analytical laboratories, skill development facilities for general public etc. Such arrangements also enable larger opportunities for needy students to earn as they learn. While developing campuses in this mode, one needs a guarded approach to prevent ills of unmindful commercialization compromising the sanctity of a seat of learning. However done with proper checks and balances with MAHED oversight, this may in fact enrich the learning environment as has been the experience with some of the top universities abroad.

(2) Another possibility that should be explored is levy of a cess for financing of higher education. A dedicated cess for higher education would ensure that the money is used only for expansion and improvement of higher education.

(3) State Government can proactively ensure that the university is not burdened by State and local taxes by notifying exemptions. For example:

- Exemption from non-agricultural Assessment and land revenue on the land holding of the university.
- Exemption from stamp duty and Registration charges for any agreements, leases, sales to or by the University
- Electricity duty exemption for any captive generation by the University.
- Exemption from Local Body taxes like Village Panchayat's property tax and betterment charges
- Exemption from royalty payable on minor minerals (earth) extracted during construction of buildings in the university campus

(4) Donations and other forms of financial support from alumni, philanthropists, industries and other stakeholders could form an important source of support for the universities. In fact the universities should have a significant corpus to further enrich the university over and above what is possible within the governmental framework. Examples of such activities could include student welfare and mentoring programmes, faculty motivation activities, new initiatives on a trial basis, innovative campus development initiatives, society interface etc. Autonomy in functioning of the university is an important factor in determining the quantum of such donor support that is likely. Such donations should be made eligible for maximum tax benefits.

(5) Universities should strengthen their financial management system through augmentation of professional capabilities in this area. Apart from monitoring and audit by the Government, students should know the cost of education they are receiving, donors should know how their contributions are utilized and indeed there should be confidence enough that any support to the university would be put to best and intended use.

**16.0 ICT - Enabled Higher Education Framework**

It is envisioned that the Information and Communication Technology (ICT) will significantly transform higher education in the twenty-first century. In anticipation of this trend, MHRD has launched a national mission on education through ICT leveraging the National Knowledge Network (NKN) that promises to connect all major universities and colleges of India. In addition, in the mobile arena 3G, 3.5G and 4G connectivity is expected to dissolve the barrier of connectivity once for all. The committee recommends that Maharashtra should be at the forefront of implementing ICT-enabled Higher Education framework.

We must recognize that the processes of generation of new actionable knowledge, its integration, preservation, dissemination and above all its novel application for socio-economic transformation are predominantly ICT-enabled or ICT-driven. They are influenced by the four mega-trends viz. Digitization, Virtualization, Mobilization and Personalization. Unlike the ones in the last century, they are highly collaborative, co-creative, participative, self- correcting, self-improving and self-organizing, borderless, globally distributed, asynchronous, rapid, dynamic, open and egalitarian.

The socio-sphere enabled by highly accessible browsers, powerful search engines and extraordinary social networking tools is resulting into extraordinary collective achievements and social actions of seemingly ordinary and so far isolated individuals spread over the diverse geographies on our planet. This extraordinary performance of ordinary people is in fact because of the extraordinary powers of ICT such as large-scale enabler, quality enhancer, efficiency booster, economizer, accelerator, equalizer and mass-personalizer.

**Maharashtra should be at a forefront of implementing ICT-enabled Higher Education framework. We recommend creation of Maharashtra State Higher Education Information Communication Network (MS-EDUNET) with a comprehensive ICT infrastructure in all universities.**

These transformative processes are likely to gain even greater momentum in the next decade with the probable advent of ubiquitous and distributed sensors communicating through wireless networks, nanotechnology applications, peta-flop processing power in widely available and affordable desktops and laptops, global data warehouses, extreme bandwidth networks and non-human-like intelligence-based novel applications such as partially perfect but real-time language translation services to be provided by telecom companies, etc. Human civilization is thus synthesizing a global brain and trying to rapidly find out knowledge-based solutions to its problems of survival, development and empowerment.

Our 21st century Higher Education cannot afford to remain isolated from this new mainstream social process of knowledge creation, preservation and dissemination, and problem solving. Unless this new socio-sphere is consciously propagated in our colleges and Universities in core educational delivery processes, our students may remain ill-equipped to fulfill their obligations in life in general and at the work-places in particular.

The new capabilities, methods, approaches, social networking tools and value system of the 21st century socio-sphere of the emerging digitally connected society have therefore to become the mainstream paradigm of delivery of Higher Education in India for social co-creation of knowledge-based innovative transformations leading to a prosperous and peaceful nation. The higher education system, therefore, needs to be enabled by a state-of-the-art IT Infrastructure, and the ePlatform for the delivery of Higher Education and interactions among various stakeholders.

Ministry of Higher and Technical Education has already directed the universities of Maharashtra to create a comprehensive digital university framework for both eLearning and eAdministrative services. Delivering eLearning and eAdministrative services demand a robust, scalable and powerful technical infrastructure. The technical infrastructure required can be broken down into the following for proper visibility and understanding:

- Network Connectivity
- Datacenter
- University Server Infrastructure
- University Departments / Colleges / Assessment / Exam Centers / Government Offices / Higher Education Secretariat, Directorates, Joint Directorates / UG Examination Boards / Granting Aid Bodies Infrastructure
- Security Infrastructure

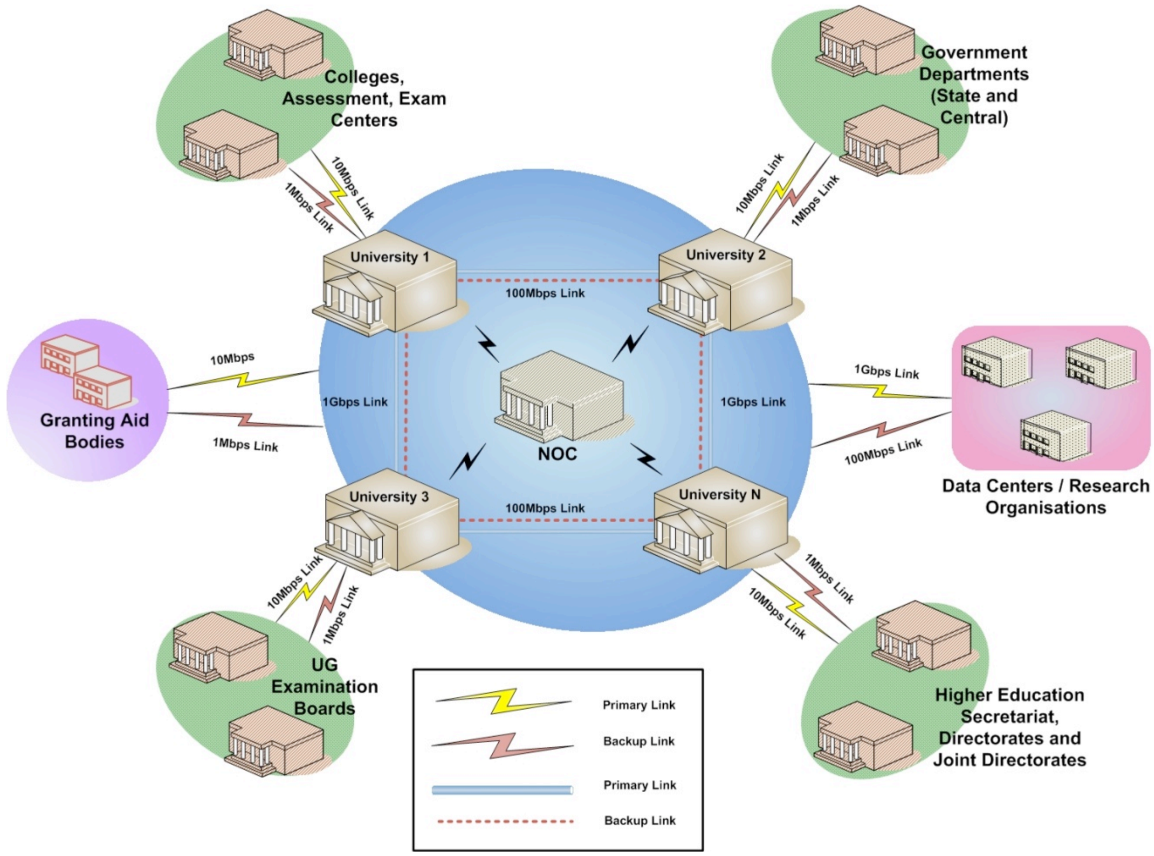
IT related Services offered through this infrastructure can be classified into the following:

- Virtual Classrooms
- Voice over Internet Protocol (VoIP) Infrastructure
- User Help and Support Systems
- Monitoring and Management Systems

Network Connectivity comprises of Local Area Networks and Wide Area Networks.

Access to eLearning and eAdministrative services demand a combination of various networking technologies which can be used by the Students, Teachers, and Employees to connect to the Data centers. The WAN connectivity proposed would provide the required access and is mapped exactly to the connectivity mentioned in the National Mission on Education through Information & Communication Technology (NMEICT) Mission document. However, in the context of today's bandwidth hungry applications like Video conferencing, eLearning solutions which include demonstrations, interactivity; VoIP etc. the network bandwidths mentioned in that document would need to be upgraded (from 1Gbps to 10Gbps for Universities and from 10Mbps to 100Mbps for Colleges etc.) once this network is operational and effectively used. The proposed Wide Area Network (WAN) Connectivity can be divided into the following parts for proper understanding:

- University Campuses
- Data Centers
- Research Organizations
- Colleges / Polytechnics / ITIs
- Assessment / Exam Centers
- Schools
- Internet Connectivity
- Network Operations Center (NOC)




**Proposed Network Connectivity for Maharashtra's Universities**

In order to access the eLearning and eAdministrative services, each Department situated in the University Campus should be connected to each other using University campus LAN of 1Gbps bandwidth. Also the University should be connected to National Knowledge Network (NKN) Backbone of 1Gbps bandwidth. It is crucially important that special efforts are made at the level of State Government to get NKN quickly deployed in Maharashtra at the earliest. In addition to this connectivity a backup MPLS VPN link of 100Mbps bandwidth is also essential. The backup 100Mbps link should be procured from a different ISP so as to provide fault tolerance and redundancy.

The Datacenters which would host the Scalable and Powerful Server Infrastructure could be a part of the State Data Centers (SDCs). A detailed design of the Datacenters is given in the next section

Each College / Assessment / Exam Center / Government Office / Higher Education Secretariat, Directorate, Joint Directorate / Examination Board / Grant-in Aid Body should be connected to the National Knowledge Network (NKN) at 10Mbps bandwidth with an additional backup MPLS VPN link of 1Mbps bandwidth. As specified for the connectivity of Universities, the backup links should also be procured from a different ISP. Each University should be connected to the Internet with two Internet links i.e. 10Mbps (Primary) and 5Mbps (Secondary). Each College / Polytechnic / ITI can be connected to the Internet on 4Mbps (Primary) and 2Mbps (Secondary) leased lines. This would enable the students to connect to various online labs, educational material and the Industry.

The NOC would monitor and manage the whole IT Infrastructure. As its connectivity is very critical to the uptime of the IT Infrastructure, the NOC would be connected to the National Knowledge Network (NKN) Backbone of 1Gbps bandwidth with an additional backup MPLS VPN link of 100 Mbps bandwidth.
A powerful, Scalable, Secure, and Fault tolerant Technical Infrastructure would be the Backbone on which various IT-enabled Services can be offered by all the Universities of Maharashtra.

**Information Services**

These services will facilitate availability of general and personalized information to all the students on the portal (website) which is maintained by the University itself. Information could be about University and its Departments, Officers, Authorities, and Committees of the University, Affiliated Colleges/Recognized Institutes of the University and their Accreditation and Recognition Status, Academics: Faculties, Courses, Syllabi, etc. Admission: Rules and Regulations for various courses, Scholarships and Concessions and other schemes of the Government, Educational Loan Schemes, Awards and Honors (by and to University), News and Events, Circulars, Government Resolutions, Notices, Co-curricular and Extra-curricular activities, Competitions and Awards, 'EASY' (Employment Assistance Services to Youth) jobs, Competitive Examinations etc.

**Administrative and Facilitation Services**

These services will facilitate availability of following personalized administrative and facilitation services to the students, Personal Profile Update, Eligibility Processing, Application for Examination, Examination schedules, time tables, centers and venues, Examination Hall Ticket, e-Statement of Marks, Verification and Re-valuation, Convocation, Issue of Migration Certificate, e-Transcript, Status of various applications, Progression Record from admission to convocation, Syllabi, List of Recommended Books, References, Contact session time table, Personalized Alerts, Notices, Calendar, Planner, Organizer, Messaging Services amongst students and teachers, Selection of contact session center, Complaint registration and redress.

**Learning Services**

These services, using the state-of-the-art eLearning technologies, will facilitate student for a technology driven, learner autonomy centric new education paradigm for enhanced enjoyable value adding and personalized learning experience such as; Learning Management System, Content Management System, Distributed Classroom, Online Evaluation System, Assignment Management System, Question Banks and Model Answers, Project Reports, New Project Ideas, Personality Development, Business English, Soft Skills, Profiling Tests, Webcasts, Video Lecture Streaming and Podcasts.

**Participative and Collaboration Services**

These services attempt to exploit the power of 'Learning by Collaboration' and 'Participation' with use of information and communication technologies such as; Thematic eCommunities, Threaded Discussion Forums, Learning by Gaming, Blogs, Wikis, Opinion Polls, Express views and Share Content.

## 17.0 A New Act for Public Universities
**(A brief by Committee II on Legislation Review and Reform of Public University Systems)**

1. Public universities, in spite of the trend of privatization of education, are playing and would continue to play are important role to shape the future of millions of youths in Maharashtra for decades to come. They need to be endowed with a legal configuration that promotes innovations in learning-understanding processes, cultivates research and development culture, imbibes the principles of knowledge to wealth generation by adhering to values of 21st century, and brings openness and flexibility in teaching and research framework. The legal structure, while allowing various stakeholders namely students & parents, teachers & non-teachers, funding agencies & user of the graduates, the employers, and the Society to be a part of the System at different levels, needs to ensure that right persons with true intentions, participate in the decision making process in various Authorities and Committees. The System should, in addition, attract participation of various experts in a very pro-active manner so as to make qualitative changes in its operations. In addition, the clever and innovative use of technology in all aspects of educational institutions is a tool to liberate them from the shackles of the past and embrace the challenges of global opportunities.

2. The public system presently in a true sense is doing acrobatics while retaining their identity as a "creators of educated knowledge force" for a vibrant and emerging nation like India. The public system faces several challenges; it handles enhanced number of students, it gets feeble financial support and it operates in a legal structure that is completely out of phase with changing time. The Committee II has looked into all these aspects in a holistic manner. It has created an open, simple and flexible legal structure that addresses the following aspects that are vital for making Indian Universities' dynamic & vibrant places fulfilling aspirations and expectations of the youths of tomorrow.

**(A)Inclusiveness while respecting regional identities**

It is the inbuilt in the character of education, to nurture and cultivate fertile minds of youths, for the challenges of the 21st century. Universities are losing their grip on higher learning as the Internet is, inexorably, becoming the dominant infrastructure for knowledge — both as a container and as a global platform for knowledge exchange between people — and as such the new generation of students requires a very different model of higher education. The domain of higher and professional education is expanding and vital for the progressive economic growth of the State. The demands and aspirations of families that spread over the wide spectrum of income would be rising and also would ask for relevant & quality education with appropriate skills. Today's student community, irrespective of their physical location, because of easy access and their own command over communication technologies has itself become self-learner. Since the business of the university is knowledge, the extraordinary advances in information technology will have profound implications for universities. Rapidly evolving technologies are dramatically changing the way we collect, manipulate, and transmit information. This directly challenges the traditional paradigms of the university, where processes of knowledge creation, preservation, transmission, and application are still largely based on books, chalk boards, oral lectures, and static images. There is a need to have an innovative approach at policy level specifically relating to the way one handles higher education system and the strategy for implementation of policy so that all regions in the State of Maharashtra grow as regards the educational infrastructure that is in phase with changing times. We therefore propose establishing a Maharashtra State Commission for Higher Education and Development [MAHED] which would be a standalone independent legal entity with appropriate & adequate autonomy. It would be funded by the State. It would be run by eminent academicians, scientists, technocrats, business/industry experts and financial experts. It would become a conduit for funding of public universities by the State Government. It would decide upon and grant permissions for expansion and creation of colleges, their academic programs on the recommendations of a particular university. It would have powers to address grievances of teachers & employees, grievances related to admissions & fees structures.

MAHED would be the link of the State with the MHRD and various other education policy and decision making bodies at the Centre as well as the Planning Commission in the field of higher and professional education. Thus MAHED would be the prime entity that plans, works on funding policy, creates an operative structure and monitors growth and quality of the education system as a whole for the State.

**(B) Quality education independent of geography**

The larger challenge before the State is to ensure access to relevant and quality education independent of geography. The most appropriate technology solution to achieve this is to create an information flow network. We recommend creation of Maharashtra State Higher Education Information Communication Network (MS-EDUNET) and this task should be allotted to MAHED. MS-EDUNET, once the State network is created, should maintain the inter university network and also decide strategy for up-gradation of networks in phase with change of technology. Each university should manage the intra-information network, on their own.

The role of MS-EDUNET is to create the path for flow of information & data, which is so vital for enhancing quality of classroom teaching by blending F2F (face to face) delivery with the E-Learning delivery system. The connectivity would facilitate sharing of faculty through virtual delivery systems, sharing of knowledge resources amongst colleges and universities and would create synergy for national and international linkages. The network would enable efficiency and credibility in administrative, financial, examination and governance processes in colleges, sub-campuses, main university campuses in intra and inter mode.

**(C) Seamless global academic structure**

The universities in the State while remaining competitive amongst themselves and amongst national level higher education institutions also have to be in phase with global level reforms in curricula and delivery of education. In the 21$^{st}$ century, the internalization of education demands easy access to education at regional, national and global level. There is also a demand for cross-fertilization of subjects and disciplines to meet the challenges of the knowledge linked global economy. The boundaries between conventional and Open Distance Learning have disappeared and skill education has become an integral element in education. It is a time free flow of courses that would allow students to have a multi-faceted education. Technology allows new paradigms to emerge to deliver education in a different style.

We have therefore proposed a choice based modular credit based system among all Universities in the State. We have created Maharashtra State Commission for Higher Education & Development (MAHED) that would an apex umbrella body, which, in addition to other tasks, would come out with a uniform structure for various credit points for different degrees that universities offer. Each of the Universities should decide on the number of modules that students should cover to get a particular degree. Our students would have mobility amongst various State universities; they would have access to best of education, at any place and from anywhere, in a choice-based cafeteria approach and they would be accepted globally for further education or for doing jobs.

**(D) Decentralize, Small is beautiful**

The enhancing of access and equity to higher education has its own effect on growth of affiliated colleges and it does have a significant impact on the academic, administrative, financial and governance of the University. Each of the State universities has a large number of affiliating colleges and this is bound rise in coming ten years; the impact of Right to Education. The State cannot go on creating additional universities through bifurcation of the existing universities or creating new ones. It is essential to adopt a two level approach; give autonomy to good colleges, empower them legally to partner responsibility of

degree awarding status with main university and secondly use technology. We suggest the creation of an Officer level position –Director Sub Campus- at each district level sub-campus of the University, creation of networked colleges and main and sub campuses scenario for flow of knowledge-learning entities and use ICT /.MIS for administration and governance mechanisms. Our proposal is to make a determined and time bound effort to ease out of affiliating structures by creating the environment of confidence amongst the colleges. We recommend the following approaches at three levels :

1.**Autonomous Colleges**

The colleges that have got 'A' grade or 'B' grade with Cumulative Grade Point Average (CGPA) above 2.5 in NAAC assessment (or equivalent Grades from recognized assessment and accreditation agency) be declared as autonomous institutions by the University. The University shall forward all such cases to the UGC for further financial support. The Colleges that have got 'A' grade shall also be recommended to the UGC for consideration for financial support under "Colleges for Potential for Excellence in Teaching".

2.**Empowered Autonomous Colleges**

There are two streams of thoughts on reducing the burden of affiliating structure; one stream talks of bifurcation of huge Universities in many replicable Universities and the other recommends creation of many additional Universities (The Knowledge Commission recommends creation of 1500 new universities). Both these approaches have direct link with availability of large order of funds (and the Knowledge Commission has projected the investment to the tune of 30,000 Crores of Rupees) and such order of funds are not available both at State and Central Government level. Quality is linked with creation of right environment, for academics and for management, in the universities. The Central Governments approach of creating few new universities is a step in right direction. Moreover quality per say and sustenance of quality simply does not come from bifurcation or creation of new universities. We feel it is more suitable and cost effective to create a legal proviso in the Act itself to identify good quality colleges or cluster of colleges and legally 'empower' them to give degree(s). It would be a joint degree given by the 'empowered autonomous college' and 'the parent university' to which it is affiliated.

**Empowered Autonomous Cluster Institution (EACI)**

It may happen that a particular Society has a bunch of colleges that are doing well. Such a cluster of colleges could be given "Empowered status" and such conglomeration would be referred as "Empowered Autonomous Cluster Institution".

**(E) Freedom for Innovation**

The need of the hour is to strengthen education at post-graduate level, whether happening in university departments or in colleges. It is necessary to enhance the research and development culture and cultivate a desire for entrepreneurship, patenting of ideas and support Intellectual Property Rights (IPR) in universities'. Two committees, which are the part of proposed Act, namely Committee for University Departments & Interdisciplinary Studies (CUDIS) and Committee for Post graduate Education at Colleges with well defined functions (COPEC), should make such a scenario possible on the Main Campus and colleges respectively.

The quality of teaching and learning activities in universities is enormously dependent on the research and development environment in colleges and university campuses. We have suggested independent committees to organize and administer all aspects connected with R & D so as to enable research students to pursue their work in a free atmosphere. It is titled as Committee for Research & Development (CORD) with well defined functions.

The most challenging aspect in R & D activities is protection of IP related to the knowledge emanating from research that is generated in colleges and university campuses. The faculty needs hand holding approach to create awareness and helping them to file patents. One should realize that some R & D outputs and results have the potential to become good business propositions. Incubation of such ideas into reality and converting them into business is an Art and also Science**.** We have created a new Authority entitled "The Board for Innovation, Incubation and Enterprise" with well-defined objectives and with membership of experts from R & D organizations, industry and research community in the university departments and colleges.

**(F) Learning powered by Technology**

Throughout the centuries, the intellectual focal point of the university has been education given in the class-rooms and further supporting the interaction between the pupil and teacher through collection of written works preserving the knowledge of subjects and disciplines. Today such knowledge exists in many forms—as text, graphics, sound, algorithms and virtual reality simulations—and it exists almost literally in the ether, distributed in digital representations over worldwide networks accessible by anyone, and certainly not the prerogative of the privileged few in academe. Thus learning driven by technology is the mantra for making education relevant.

Over the past several decades, computers have evolved into powerful information systems with high speed connectivity to other systems throughout the world. While the processing power of computers continues to increase, of far more importance to universities is the increasing bandwidth of communications technology. Both Internet access to off-campus resources and "intranet" capability to link students, faculty, and staff together are the highest priority. The key theme will be connectivity, essential to the formation and support of digitally mediated communities.

We have therefore advocated creation of State level information communication network; MS-EDUNET. There is however challenge in creation of such infrastructure. Historically, technology has been seen as a capital expenditure for universities or as an experimental tool to be made available to only a few. In the future, higher education should conceive of information technology both as an investment and a strategic asset that will be used by the entire faculty, staff, and student body to sustain and enhance the mission of the university. The expectations of user community are always different thus demanding a highly diverse technology infrastructure. Humanities students will seek robust network access to digital libraries and graphics processing where as Science & Technology students would seek massively parallel processing. Social Science students & researchers would like to have the capacity to manage massive databases, for example, data warehouses and data mining technology. Performing Arts and Architecture students will require multimedia technology. Business and financial operations will seek fast data processing, robust communications, and exceptionally high security. Linking these complex multi-vendor environments together will be a challenge, since they use different equipment, diverse software and operating systems for varying purposes. For this reason, it is important to insist on open-systems technology rather than relying on proprietary systems. We have, to address such complex issues, created an independent Board to handle integration of technology in academics, finance, and administration as well governance mechanism.

**(G) Synergize core and skills education**

The growing economies are looking for graduates that have sound foundation in core subjects, experience in profession related skills and knowledge of soft skills that are connected with communication skills, command over language, personality and capacity building. We have a very interesting scenario that has come in to existence in the last few decades. The general education colleges are busy in educating students for undergraduate degrees but without giving skills education. The private skills education providers are doing skills education outside the existing legal structure. It is well established and accepted by the industry.

We have created in the legal frame work a synergy for co-existence and collaboration of private skills education providers either in a standalone mode or on the campuses of colleges. We recommend creation of “empowered autonomous professional skills development colleges” (EMSKID) in the university system. These would be run in the same premises as that of the “general education colleges”, with upgradation of academic, technical & physical structure if necessary. They would run certificate, diploma and Associate degree level programs in skills development in various domains. This would, apart from giving the College enhanced utilization of space and academic resources, help them to create a synergy with local and regional industries. We have recommended creation of standalone independent EMSKID colleges either by the existing education or in collaboration with Private Skills Providers. Indeed, Private Skills Education Providers are welcome to create an “empowered professional skills development college” as a joint venture with the affiliated general education colleges.

**(H) Holistic growth of students**

The new century is looking for education that cultivates youth in a holistic manner. The visualization of culture, fusing of performing arts and acquiring sports skills gives youth mental, social and physical healthiness. We recommend two Boards with appropriate expert Advisors from society to propagate these aspects that make a human more sensitive and responsible to the Society. We further suggest creation of an independent office with two full time persons, Director (Students Welfare) & Director (Sports) to look after these activities in the universities. We have recommended two independent Boards to make culture and sport an integral part in holistic growth of students’; namely The Board of Culture and Student’s Welfare (BOCUSWEL) and The Board of Sports (B-SPORT).

**(I) Student Centric Efficient Administration**

The entire University system has to remain focused on students. Various other entities involved with the university system are teachers, administrative staff and persons (mainly teachers & the persons who run the educational societies) at one level and Vice Chancellor, Deans and other senior officers at another level. The present university Acts have large overlaps in functions, duties and powers there by creating confusion and promoting misuse of various provisions.

The entire structure of Officers and also of Authorities has been reworked to address the new challenges that have emerged because of globalization. The Dean positions are created as full time Officers, a post of Provost, a senior officer next in hierarchy, is created with well defined tasks. Provost and Deans are full time Officers with five years tenure appointment. The examination Board run by full time Officer and working as an autonomous entity would bring efficiency and credibility in examination process. The Board of Studies, Faculty and Academic Council will drive reforms in examination and MAHED would play a pivotal role in these reforms. Our proposal, while respecting and nurturing the advantages of democracy, brings in openness and transparency in the entire process of representation of different stakeholders on various Authorities. We have made appropriate changes in the entire process of representation of different stakeholders on various bodies.

Two major reforms we have recommended are redefining the role of the Senate and creating a Statutory Advisory Committee to help the Vice Chancellor to draw on expert advice from experts outside the system. These changes would be bridging the aspirations of students with the needs of the Society and expectations of emerging future.

The Senate of the University provides a platform to establish a bridge between various stakeholders and the university authorities. It should play a role of a conscience keeper and give suggestions to university authorities to improve its working in all aspects; namely academics, R & D, and administration. We therefore recommend that the Senate be titled as "Society Partnership Council (SOUL)". The SOUL should in a true sense reflect being a forum of various stake holders; namely employers/business community/industry, Agriculture and Agro-Products businesses, research and development agencies, social reform organizations, Art, literature, Culture and performing Arts organizations, Health organizations, Women's organizations, Organizations involved Environment and Preservation of Nature related task, Organizations involved in communications and media, Organizations involved in Finances and Investments task, Organizations involved in legal reforms and judiciary, Academicians who are not directly connected with the Universities, Senior Citizen's organizations, Societies and Trusts that are involved with primary, secondary and professional and general education.

The emerging global challenges demand that the Vice Chancellor should have access to information on World trends in the domain of higher education. S/He should have the possibility of seeking advice from a group of experts in various aspects that are critical for growth and credibility of the university. These experts should be independent and preferably not linked with existing HEIs in the domain of university. Our proposal is to establish Statutory Advisory Committee (SAC) of eight renowned experts in domains science & technology, humanities, economics & management, ICT technology, human resource management, finance and business/industry to advice the VC & through him/her various authorities and officers on working out strategies and operating structures for making university academically vibrant, administratively open & efficient, and financially sound entity. The members should be not connected with any Body of the university and their membership of Advisory Committee would be co-terminus with the term of Vice Chancellor. The SAC would become bridge for bringing new ideas that reflect the continually changing scenario at global level into the system.

**(J) Sound Financial System for Colleges and Universities**

We suggest three level approaches. Firstly, use the fee fixation process as adopted for professional degrees to work out the cost of the general degree. Hence we recommend Fee Fixation Committee as an integral part of the new Act. We have developed a new approach for giving grant-in-aid to public colleges and universities. A three stream model is suggested; one stream presents a new way of grant-in-aid formula where in the "Fees committee" would work out the 'real' cost of "education" by taking into account academic & physical infrastructure investments, cost of faculty & supporting staff, & administrative & other costs for each degree or other programs for each student and use that cost per students as a unit to work out cost of education of all students in different programs to fix the grant for each financial year. The other stream takes into account conversion of capacities of a university into generation of resources. Each university has four distinctive assets, namely human, intellectual, relationship and reputational capital. The combination of assets and operations (that are tuned to accept operational challenges efficiently), directed towards opportunities within each university's chosen strategic focus, provides the basis for a self-sustaining academic and business portfolio. The third stream is support to the university from Higher & Professional Education Funding Corporation (HIPEC). This would be an independent entity created by the State with initial bulk funding to the tune of 1000 Crores. The continuous flow of revenue for HIPEC is expected from each & every employer paying one time "Professional Advantage Tax (PAT)" equivalent to first month salary of the new employee for which the employer gets tax rebate, and entry level refundable deposit to be collected from each fresh professional and general graduate student. The amount of deposit would vary from degree to degree and the deposit would be returned to students after

getting of degree. The HIPEC would provide soft loans to students and to educational institutions for enhancing academic & physical structure. The students would be charged an interest of 3-5% with repayments linked to income beginning with employment. The repayment period is to be selected by the student in a -10 years to 25 years- band. The loans given to Higher Education Institutions (with mortgage guarantee) would be at reduced rate [around 70% of commercial bank loan rate based on merit of the proposal] with repayment period of 5 to 10 years.

**(K) Globalization & Internalization**

Creation of linkages with apex educational and research institutions at national and international level constitute an important way to enhance quality of teaching and research programs in universities and colleges. The universities need to make special efforts to achieve these through organized efforts for attracting foreign students, for attracting reputed research scientists in national and international institutions to become adjunct professors, and for establishing links with industries to draw upon their expertise for teaching and research activities through joint research collaborations and offering adjunct professorship to experienced industry experts. All this is now easier through use of technology. MS-EDUNET makes such links more easy and effective. A Committee for National & International Linkages (CONIL) is created in the Act itself with well-defined function to achieve the above-mentioned objectives. The CONIL should also define the process for establishing a cell for Foreign Students. International students are a source of important enrichment and need to be encouraged in every university.

**(L) Quality and Social Audit**

One of major lacunae in our system is systemic negligence for accountability at all levels. Each major stakeholder; teachers, supporting staff, managers of HEI and students are accountable. We propose well-defined and precisely scheduled process and appropriate mechanisms for judging quality in actions and works of these stakeholders. Our proposal is to establish Internal Quality Assurance Cell (IQAC) that would work as an independent entity and provide a “third eye” view on operations at various levels so as to ensure total quality in institutions as a whole. These processes should give credibility to HEIs. The task of IQAC is well defined and it is linked to MAHED. We also desire that IQAC should also carry out the impact of universities teaching, R & D and other activities related to social development. Indeed we recommend social development impact index as one of the additional parameters in quantifying the utility of task done by the higher education institutions for Society in general.

**(M) Education as a Lifelong learning process**

The education process just does not confine to earning a degree. It also is not restricted to the process of adult education only. Indeed the need of the hour is for Universities to create such enabling mechanisms to address education as a lifelong learning process. We believe that creation of an independent Board for Lifelong Learning with the task of evolving processes and practices of lifelong education as a service to the Society and that of creation of special human power for such activities at colleges, university campuses and for assisting NGO’s involved in such work are of prime importance. One more aspect that needs attention is training students in support services to senior citizens. The longevity in our nation is on rise but there are few efforts to address issues of senior citizens. We have created Board for Lifelong learning, value education and life skills development with a separate Centre for Lifelong Learning, Value Education & Longevity Skills Development (CELIVE).

## 18.0 Higher Education Framework

**(A brief by Committee III on the matter of Sub-Division of Large Affiliating Universities)**

The Committee appointed for Sub-division of universities in Maharashtra considered the use of globalization for raising quality and excellence in higher education, for linking education with employment and wealth creation, and for ensuring equality and justice for all students/learners. The Committee noted the huge burden of administrative and affiliating functions with centralised examination systems, and the pressure of large number of students and colleges affiliated to the University. The colleges are started with good social intentions of taking this modernising instrument, the College, to remote parts of Maharashtra for regional and social development. Socio-political and economic developmental expectations have brought in pressures, which have seriously polluted the academic atmosphere in universities, which has resulted in reducing the quality and standards of higher education and research in Maharashtra.

### 1.Needed Radical Reconstruction of Higher Education Relevant to the ICT Connected Society

During the last decade or two the global social scenario is undergoing radical changes due to the subversive inventions and mass-marketing of the Information and Communication Technology (ICT) gadgets- mobile phones, tablet PCs, broadband connectivity, networked facilitation services, etc. Global networking, which connects Anyone, Anywhere, Anytime (A3 Connected) and eliminates space-time separation, has created new processes of sharing, communicating and giving access to knowledge resources to all. India is also fast getting connected through mobile technology with the use of broadband connectivity of 1G, 2G and now 3G (G is Generation of Communication Connectivity). Nearly 875 Millions have been connected by telephony, out of which mobile connections are 827 Millions. Rural area is also getting connected with 286 M wireless connections. Highly connected society is emerging and mass communication tools and techniques empowered with access to open knowledge resources can now be used for radical reconstruction of the system of Higher Education. Connected society with its global reach and Open Resource of Knowledge and Social Networking movement through face-book, blogs, Wikipedia etc have created new ways of coming and working together, sharing experiences and using various tools and technologies for learning and developing. Till recently the centers of Higher Education were the only places available for students for their empowerment through learning, creating and developing. Learning and developmental resources are now available globally on the networks and have created entirely different scenario for learning, developing and value creating. The New Connected Society has invented many self-expression ways and unleashed self-organizational forces that are seen in action during the last few years. Connected people are pooling their best contributions of their creativity and generosity in the open resources and creating *social wealth/commons*. This demands a relook of the NOW existing education, which separates study and work periods in life and transform it into integrated approach to studying, working, learning, developing and value and wealth creating. The new education should help each student to create his/her FUTURES in the new connected society.

*In order to incorporate new functions of the networked society, two more functions, namely application of knowledge (Social Development) and autonomous self-organization & self-governance, have been added to the traditional three functions of the university - creation, preservation and dissemination of knowledge.*

The Committee considered these changes due to globalization and approached the sub-division of universities rather differently, and have suggested to create autonomous institutions (University Campuses and Colleges) under the umbrella support of Maharashtra State Commission for Higher Education and Development (MAHED), which enables the education institutions to enjoy autonomy and responsibility for 'creating' futures of the students through the university education.

**2.New Education for A3 Connected Society**

We recommend reorganization of the massive and centrally heavy system of university education into decentralized, localized and autonomous small units of university campuses guided by well accepted objects, policies, resources and services for enabling the small autonomous units to exercise their autonomy effectively, efficiently and accountably. To ensure life-long-learning (L3) and self-directed development, the education is being linked with social development with creation of values and wealth. The learning ecosystem will be created by the MAHED and extended to all learners and institutions all over Maharashtra with the help of e-Platform working as a level playing field for all learners and education providers. Open learn stream is symbiotically integrated with traditional (capacity development) education. It is added with capability development with co-creativity as in Wikipedia creation. We therefore create and recommend a new form and functions of the education, called '**New Education',** based on social *developmental learning aimed at social transformation.*

**3.Global-Local Model of Education**

The Global-Local Model of education is developed as a Central-Local Model under the aegis of Higher Education Commission in Maharashtra. The educational organisation is at two levels:

**Central Level:** With following bodies

- •Apex Advisory cum Supervisory Council (AASC)
- •Maharashtra State Commission for Higher Education and Development (MAHED)
- •Academic and Development Council (ADC)

The Bodies work for creating common policies, programs, resources and services to support autonomous functioning of the universities.

**Local Level:** With

- •Main University and its Autonomous University Campuses (one per district), Autonomous Colleges and Affiliated Colleges
- •Empowered Autonomous Colleges and Empowered Autonomous Cluster Institutions

The Central Bodies under the MAHED ensure autonomy and independence of Education System to function with high performance excellence and enable institutions, small and big or urban or rural, to work with transparency and accountability and offer quality education to their students using networked facilitations under MAHED.

**4.MAHED Functions: Creating Learning Eco-System and e-Platform for the State**

The MAHED establishes under it the Divisions of:

a.Higher Education And Development Networking and Services (MS-EDUNET)

b.Quality & Excellence Assurance and Affiliation Council (QE Council)

c.Division on Under Graduate (UG) Evaluation (UGE Division)

d.Open Resources and Empowerment Services (ORE Services)

e.Division on Vocational Studies with Distributed Centers (VS Division)

The bodies will be working under the leadership of the Directors of the MAHED.

Major functions of the divisions will be to facilitate Universities in supporting learners and institutions through objects, policies, resources and services for learning and social development and for creating facilitations for creative and innovative working. MS-EDUNET can be established as a Social Developmental Education Corporation as a wealth creating non-profit organization, and the other bodies, the QE Council, UGE Division and VS Division, are recommended to be established as autonomous bodies. They should work with corporate work culture, and be accountable to MAHED. The profits (wherever possible) obtained by the bodies should flow into the development of Higher Education System in Maharashtra to make it self-reliant at least in the operational costs of universities and colleges.

Major functions of the divisions will involve the creation of a Learning Eco-System, which promotes decentralization, autonomous self-governance, accountable and transparent functioning; create e-Platform for all higher education learners in Maharashtra with broadband connectivity and essential services and technologies; and offer basic e-services to all students required in a connected knowledge world.

The ORE Services promote cooperative learning including service and production/development learning through group working and generates co-creation processes with outcome of social wealth including monetary wealth. All the divisions of MAHED will generate resources that can be used for socio-economic and cultural development of learner communities and support social transformative system of education.

**5.New Education: Linking Learning and Development as Life-Long-Learning Process**

The existing system of education is simply based on curricular course teaching and concentrates on knowledge and skill development mostly of cognitive nature. The system at the most develops capacity in terms of knowledge and skills, but does not educate students in applying them to the lab or field or life related issues that ultimately contribute to the development of society.

New education makes education wider, broader and relevant to the situations of life, work and development. It is more based on activities in the form of assignments and projects to be undertaken by students individually and in a group. Some of the activities are of mass-collaborative type. This is essential since knowledge and development resources are openly accessible to anyone and are becoming Omnipresent. This makes the change eminent and paradigm shift is from content and teacher centric learning to the learner and learning centric education.

In order to link the reconstruction of higher education through this constructivist approach which is being adopted from primary education, we have proposed a mix of methodologies of *traditional learning* based on curricular knowledge and skills (Self- Development) and *Constructivist / Work-centric learning* (Capability development) based on knowledge applications, attitudes and values and social behavior. A third learning and developing aspect is of *Connectivist / Co-creative learning* by working in large groups and mass-collaborative programs and developing Social Commons / Wealth.

Every student is given freedom to select choice based courses with fixed transferable credit points from FOUR streams:

i.Academic Stream
ii.Technology Stream
iii.Professional and Social Stream
iv.Personality and Cultural Development Stream

Ways of learning could be face-to-face and /or on e-Platform and on-line (*Open Learn Stream*). As per the requirements prescribed by a university for a degree, a student can take various modular courses from different streams so as to get the degree. The goal is to create total and wholesome personality and paths for life-long learning and developing with various milestones. A student may choose many more courses for his/her personal goal development and livelihood.

All the requirements of curricula, teaching –learning and evaluation performance are identical in face-to-face and open stream courses. This essentially removes the distinctive features of formal and non-formal course offerings except the personal and group contact requirements. Induction of tutoring and mentoring in an identical way removes the essential difference between the Open Learn Stream and other stream courses. The differences can arise in the deployment processes and goals of deployment in terms of personal and social development goals. Unified view based on constructivist learning in open and traditional education systems including dual mode universities is now essential.

Credit Banking, e-Portfolio for various purposes, OER based education system and use of face-to-face teaching though its distributed classroom are the essential mechanisms and facilities that every HE Institution must have on its campus to offer choice-based courses to students.

**6.Higher Education Organization: Reconstruction for Developmental Learning**

Higher Education is organized in the State at three stages of
a.*Post-Graduate and Research Studies* (PG Campuses & Autonomous Colleges with PG & Research programs)
b.*Under Graduate Studies* (University Campuses, General and Professional Degree Colleges), and
c.*Foundational Studies and Skill Development* (Affiliated and Associate Professional Colleges/Empowered Autonomous Professional Skill Development Colleges).

Autonomous Professional Colleges and Associate Professional Colleges should provide to every student opportunities for academic studies as well as professional- Technical and Vocational skill- courses at UG level to link learning with work skills for becoming eligible for employment. Every college should have soft skill applications center, which should also work for Learn-Develop-Earn programs for its students. The College may have partnerships with Associate Professional and other Colleges for such course offerings. For professional studies a student may be a full-time student or own time learner. An extended employment of tutors and mentors from life and work from professional fields has been proposed for students working on shops and on-platform for their experiential learning.

*Evaluation* of a learner and learning is measured on the basis of credits s/he accumulates and is supported by the Examination Board through its formative and summative exam services. Each student gets services and creates his/her portfolio of work performance. Evaluation is for learner performance achievements in Capacity, Capability and Co-creativity building and is based on personal portfolio evaluation. Performance here also includes personal framework and professional development.

**7.Reorganization of the Affiliating University**

With the support of the Learning Eco-System and e-Platform, university functions should become focused on the learner, learning and social development. Our approach of incorporating social development with value system is to make education as the instrument of social change.

We recommend that existing 10 affiliating universities be decentralized through their District University Campuses, which means 25 more university campuses besides the expansion and reorganization of the existing campuses into local /city autonomous campuses. This will need a phased development program by each university and the State. Each University Campus should have about 500-1000 highly qualified and active research teachers and scholars in their areas of studies and development, and total number of students at the UG and PG studies and research should be about 5000-10000 on each campus. In order

to incorporate social development, social organization and self-governance in education, we have proposed reorganization of the University structure into Schools of Studies in the Areas of Development to be identified by the University. The Departments in various subjects should be working within schools and offer integrated socio-economic as well as scientific and technological developmental programs besides the subject-based studies.

Affiliating university should have affiliation both of the autonomous colleges as well as non-autonomous colleges. The non-autonomous affiliating colleges be served by the University through L-Eco-System and its support services. The affiliated colleges form an integral part of the networked partnership arrangements. The university function is to award degrees to the students of these colleges and help them in their march towards autonomous and empowered autonomous status with a time-bound program.

Development path of the Affiliated College is from:

Affiliated College → Autonomous College (Above NAAC B+ Grade)→ Empowered Autonomous College for awarding degrees, diploma, associate degree etc.

The University has a full autonomy to impose conditions and prescribe process of the University affiliation on the services provided by the QE Council with justification and reasons that are essential for the quality and relevance of its developmental education in the region and localities.

Three tier systems of learners and learning development should ensure support to large number; in the lowest tier through vocational/professional courses with Associate Degree (One-two year programs), the middle tier with further degree program (Next one/two years), and the third tier being devoted to highest learning and creativity levels of studies, development and performance achievements. (Next 2-3 or more years).

**8.Autonomy of Learners and University / Affiliating Colleges**

Autonomy to learners and educational institutions is essential and key aspect for offering courses and support learning services for evolving models of personal and social development, and for creating decentralized personal and group/institutional futures. Any restrictive and framework based approach particularly in the emerging neo-modern and post-industrial society is likely to be counterproductive and will defeat Indian dream of creating a leading developed nation and society by 2020/30. It is the major responsibility of the State in the A3 connected society to protect its learners, the citizens and people in L3 and developing society, and ensure their neo-liberalization from the exploitative and coercive self-seeking forces.

*Learner* has the freedom and rights in choosing courses of his/her liking and choices to serve his/her learning and development goals; and has to observe accompanying duties, responsibilities and accountability.

*Teacher* is a learner, co-worker and co-creator, and has to play many supporting roles to help learners, learning and social development/transformation. It is the duty of every teacher to present all the learning and support materials given to students on the website/ home page of his course in OER for the benefit of the learning community.

Teachers can be existing and permanently employed, or tenured in a permanent post or non-tenured and out-sourced / contractual. Teachers are to be drawn from society, industry, professions, field/shop floor workers, etc, depending on their expertise and the contributions they can make to learners, their learning and social development.

**University Management Bodies:** Major Changes in university authorities and bodies arise due to the additions of social development and autonomous self-governance on the basis of equality and justice. (Society based on values of liberty, equality, fraternity and justice, and organised through democracy, secularism and socialism- Indian Constitutional requirement)

**9.Self-Sufficiency and Sustainability of Higher Education**

For self-sufficiency a university should depend on its stakeholders for its resource support - permanent supply of financial, academic, technological and human resources.

When privatization is accepted as a policy by the Center and the State of Maharashtra in the field of education, is essential for the public universities and institutions to have the same level playing field as for the private institutions in imparting /promoting learning and development in their institutions.

Since social development, creation of physical and social wealth has been incorporated in the learning process for creating learning and development paths for individuals and groups, there emerge many ways of supporting education. A policy of the public institutions should be to obtain operational costs from their incomes; from fees as well as community participation. All the developmental costs of Public universities should come from the State Government and project works.

**Some policy Recommendations**:

The recommendations pertaining to the individual level are

•Charging unit cost based fees
•Subsidy to individual student for tuition fees.
•Soft loans for getting education.
•Self-supported education through Learn-Develop-Earn Programs (Credits for learning from development and creating wealth and social commons).

Funds and grants should flow to the universities and colleges so as to create equality of conditions and contexts both for the private and public educational institutions. The equity and justice should be built in

the New Education system so that students 'earn' their education through learning, developing and wealth creating.

All the State and Central Government Grants to students and their developmental learning should route through the MAHED channel on personal and accountable basis. The development grants reaching out to universities and colleges should pay service charges to the Central Services created by the MAHED so that the system of global-local or central-local education and development becomes self-supporting and ultimately socially dependent.

**New Resources: University Township and PPC-Partnerships**

New University Township in the districts could be created as *Special Social Developmental Education Zone* with the concept that the university works in partnership with all its stakeholders and creates a new township of the 21st century connected community of learning and developing society, which can progress socially and economically globally and locally. The development should use all the global knowledge, resources and technologies by reorganizing the peoples' settlements now living in the area and making them the shareholder of the future development and wealth creation. University Campus should find its own place amongst this resettlement and reconstruction of knowledge economy and society. This should emerge as a *model of social business/production/marketing/ value creating* (Approach of Prof Mohammad Yunus) as against profit maximizing approach by some private business industry /marketing. The Foundations of some Corporation's such as those of Tata, Wipro, Bill Gates, etc. could be invited to create a new age settlement of township and new age university for learning and social development through their social capital contributions.

All university students, teachers and management should play active roles in this challenge of radical reconstruction of such learning and developing society and its reconstructed developmental education.

## 19.0 Recommendations of the Apex Committee

### 1. General Recommendation:

The Higher Education (HE) in Maharashtra needs substantial reforms in terms of the governance, academic excellence, employability of students passing out, meeting socio-economic developmental needs, autonomy, accountability, etc. Following are the specific recommendations.

### 1.1 Reinforce Autonomy and Focus on Peer Assessment Processes for Academic Excellence

The two main pillars of academic excellence are 'autonomy' and 'peer assessment'. Universities should therefore be fully autonomous while being fully accountable to the State and society at large, through robust peer assessment processes.

The quality of a university is to be judged by how the external peers perceive it. A strong positive judgment creates a positive feedback on the system leading to attractions for better external talent (faculty, researchers and students) as well as resources. External peers should therefore periodically assess every program and process, in the university. The university structure hence should promote several structured and unstructured peer interaction processes for robust, rational and logical handling of the situations.

It is the mature peer process rather than electioneering that should prevail. While the former nurtures excellence, the later is a leveler that leads to mediocrity. This by no way means that the majority opinion should not be honored. It simply means that an approach which is rational and logically correct from the standpoint of academic excellence should prevail in the decision making process.

### 1.2 Foster Research and Social Development Engagement:

A university is a place where knowledge is created and disseminated in a free environment. Fostering high quality research that is contemporary, globally competitive, and locally relevant is the key to sustain relevant knowledge activities in the university at their frontiers.

A university should have an ambiance for a holistic growth of its students who can face challenges of life and contribute to the development of the society. A university must nurture academic excellence keeping the societal development in focus.

### 1.3 Protect and Nurture Multi-Disciplinary Nature of Universities:

It has become amply clear that to handle real life problems, a multi-disciplinary approach is inevitable. In real life there are hardly any problems that can be straitjacketed into one or other discipline. A centre of learning should therefore encompass research on real life problems and teaching in as many diverse disciplines as possible. All existing campuses should be enriched to engage with frontline research and socio-economic development.

Further there should be emphasis on developing as many new comprehensive campuses as possible (eventually one in every district). Their programs and infrastructure development should be specific to present and emerging socio-technological needs of the neighborhood. Focus of university learning should necessarily be broad. A university without a full-fledged campus should not be envisaged.

The trend of single discipline affiliating universities has value in terms of administering colleges and professions as they grow in numbers, but a one-dimensional, focus such as this may itself be counterproductive to the quest for knowledge and value in the long run. Such universities should be encouraged to be interdisciplinary and new universities with single discipline or profession or focus be avoided.

**1.4 Move to a Learning Centric Approach:**

Traditional universities have been teaching centric. In the modern era of open resources, the role of a teacher in HE should get transformed to a learning facilitator and the knowledge creator.

Further in the emerging era of A3 connected society, a university should prepare students to derive full benefit from lifelong learning opportunities that would be the key to success in their life.

The knowledge dissemination process hence should be 'Learning Centric' meaning putting more emphasis on learning rather than how the learning was done. The learning centric approach makes the students more accountable and the teachers more productive in research and knowledge creation.

**1.5 Grant 'High Priority' Status and Benefits to HE Sector:**

It is well known that the State GER of 18% is much below the average GER of the developing nations. Considering the industrial growth in the state and the desired economic development, the HE sector must be given a 'High Priority' status. While we recommend budget support to be increased to 6% from current 3.5 % plus levels, other incentives may be considered for a multipronged boost.

The Maharashtra Government should create special financial and other administrative instruments/concessions to raise resources for universities. The land, water, electricity, transport and other facilities and development clearances should be provided on priority basis to education institutions.

Special provisions should be made to develop new townships away from the major cities around the educational centers. This not only will reduce the infrastructural burden on the cities but also will contribute to rural development and will make equitable distribution of the wealth across the State.

It is proposed that the State should confer the status of Special Planning Authority to the Universities under the Maharashtra Regional and Town Planning Act through suitable notifications. Done with proper checks and balances with MAHED (see below) oversight, this may in fact enrich the learning environment as has been the experience with some of the top universities abroad.

**2. Establish a New State Level Higher Education Governance Structure: MAHED**

**2.1** A Maharashtra State Commission on Higher Education and Development (MAHED) should be established. MAHED would be a standalone independent legal entity with appropriate and adequate autonomy to develop HE policies for the State as well as oversee and facilitate HE on sustained basis. It would be funded by the State. Eminent academicians, scientists, technocrats, business & industry experts and financial experts would run it. It would become a conduit for funding of public universities by the State Government.

**2.2** MAHED should be guided by an Apex Advisory cum Supervisory Council (AASC) chaired by the Governor on one side and a broad based academic and development council (ADC) on the other.

**2.3** MAHED will serve as the bridge between the Government and the universities. It, therefore, will acquire inputs from the Government time to time for the HE policies in the State.

**2.4** The Primary role of the MAHED will be to synchronize the education and the development activities in the State.

**2.5** All universities will be answerable to MAHED.

**2.6** MAHED should play a central role in the matter of appointment of Vice-Chancellor as well as the heads of other bodies to be set up to support higher education framework in the state.

**2.7** MAHED will define the government's funding policy for the universities.

### 3. Governance Reform at University level:

#### 3.1 Focus on Academics, Research, Development & Innovation:

University should remain focused on its primary function, that is, to facilitate learning and scholarship all the way up to the current frontiers of knowledge, research that pushes the frontiers of knowledge, technology at the cutting edge, innovations to address problems and opportunities in industry / society and entrepreneurship that generates wealth in the society. The current heavy burden on the universities of managing affiliating college networks should be brought down through establishment of autonomous Examination Boards in each university and grant of graded autonomy to colleges.

#### 3.2 No Elections:

It is the mature peer processes (involving peers from both within and outside) rather than electioneering that should prevail in a university.

The committee recommends that the elections should be done away with.

#### 3.3 Principles of Operations:

Further the rules that govern the university should lay down principles rather than rigid quantitative stipulations.

#### 3.4 Peer Driven Collegiums:

Objectivity should be brought in through establishing good traditions and entrusting interpretation of broad rules and decision making to peer driven collegiums. Establishment of collegiums themselves could follow similar processes. We need to change the university acts to bring in these important reforms.

#### 3.5 Funding:

Each University should receive an assured budget on the basis of pre-decided norms and its decision-making in terms of recruitment and other expenditure should become fully autonomous within the parameters of public spending.

Universities should strive to create a substantial endowment to support several of its activities that cannot otherwise be supported. Autonomy in functioning of university is an important factor in enhanced donor support.

Universities should be encouraged to strengthen their financial management systems through augmentation of professional capabilities. There should be confidence that any support to the university would be put to intended use in the best possible way.

#### 3.6 Empowered Leadership:

The Vice-Chancellor (VC) should be the sole academic and administrative Head of a university. A Statutory Advisory Committee (SAC), consisting of renowned experts not connected with any Body of the university, should be set up to advice the VC & through him/her various authorities and officers on working out strategies and operating structures for making university a vibrant knowledge centre with open, efficient and financially sound administration. The SAC would become bridge for bringing in new ideas that reflect the continually changing scenario at global level in to the system.

**3.7** Management body of a university should have representation/ advice of all stakeholders. Such a body should set bench marks of performance in terms of expected deliverable with respect to human resource development, research excellence, technologies/solutions, society/industry engagement and outreach, employability, etc.

**3.8 Replace Senate with a Society Partnership Council (SOUL):**

In order to make interface between the university and society more responsive to the needs of the society as well as to the university programs, it is suggested that the Senate should be replaced by an advisory body titled as "Society Partnership Council (SOUL)". SOUL should be a bridge between the university system and the various stakeholders in the Society. SOUL should in a true sense reflect through nominated membership various stakeholders in the university. The Chancellor (Governor) would be Head of SOUL and the entire membership of SOUL, representing various stakeholders, would be nominated by the Chancellor, from amongst names suggested by the Vice Chancellor.

**4.Develop an Effective Student Learner Centric Academic Structure**

**4.1 Choice based Modular Credits:**

The academic structure in HE should empower the students to excel in the field of their choice making full use of their inherent potential.

As a part of learner centric approach, entire academic program should be modularized credit based with a degree of flexibility on part of students to choose the courses they would like to audit. As long as they earn a specified minimum number of credits at the institution in which they are enrolled, they should have the freedom of choosing courses offered by other institutions with transfer of credits to make up the requirements for getting a degree.

**4.2 Strong Research and Industry Linkages:**

The HE system should make the students intellectually enlightened, knowledgeable in subjects of their preference, employable, and citizens of high ethical and moral values.

Universities should be empowered and encouraged to have strong linkages with national laboratories and industry/society through their physical presence on the campus for activities that enrich a holistic learning environment. Such presence could be in the form of an academic centre, a research laboratory or a major collaborative project. Mobility of academics and researchers is the key to maximize the benefit of such arrangements and should be given special attention.

**4.3 Three Component Curriculum:**

The academic curriculum therefore should mandatorily have three prime components:

(i) Core competence in a certain discipline

(ii) Inter-disciplinary component

(iii) Vocational component

Although mandatory, the three components should have enough flexibility. That is to say that under each component there should be ample choice of subjects to cater to the needs of the individuals.

**4.4 District/Taluka Vocational Shared Facilities:**

Whereas the core competency and the multi-disciplinary skills will be developed within the university system, the vocational component may be developed outside the formal university/college system.

In addition to developing in-house facilities and outsourcing, consideration should be given to creating common facilities in each taluka/district which can be used by colleges in a time-sharing mode. In addition to classrooms such facilities should house gadgets/equipment for imparting practical skills relevant to needs of the area and core discipline of students.

It is suggested that a specified percentage from the outlays for development programs in the taluka/district may be earmarked for meeting the capital expenditure of such facilities to be set up and operated in PPP mode.

**5. Increase Investments in ICT Infrastructure in Higher Education**

National Knowledge Network is an important development that is currently taking place. Maharashtra should move fast in deriving fullest advantage of this new possibility. Through such an approach all universities in Maharashtra could get involved in creating learner centric education framework and open learning platforms.

We recommend creation of Maharashtra State Higher Education Information Communication Network (MS-EDUNET) with a comprehensive ICT infrastructure in all universities.

**6. Facilitate and Incentivize Industry-Academia Partnership**

It is said that the academia converts the money into knowledge and the industry converts the knowledge into wealth. It is therefore apparent that for a complete regenerative cycle the industry and academia have to work hand in hand. Industry is always aware of the market needs and is constantly finding solutions and products for the purpose. Further it is industry that is the user of the products (students) developed by academia. Industrial needs, therefore, should be well understood by the academics.

It is envisaged that the industry should invest in the HE directly or indirectly so as to generate high quality manpower and cutting edge research.

Government should provide incentives, in the form of tax benefits, to the industry for investing into the education sector. It should also support university-industry research partnerships through such incentives and schemes.

**7. Self Financed and International Universities: An opportunity for inorganic transformation**

**7.1** The capacity development impact of private sector engagement is in itself worth the risk of opening the Higher Education sector through Self Financed Universities. However, due care for targeted value to flow into the HE sector in India should be taken through appropriate legislation and regulation.

**7.2** By encouraging the presence of genuine, leading international universities, we could bring in much needed quality transformations. Connecting with global best practice institutions and their networks of knowledge will be a game changer.

The target is improved pedagogy and a holistic approach to learning that incorporates teaching, research, innovation and entrepreneurship, all together. These initiatives undoubtedly would change the landscape, but should necessarily be regulated with due diligence and with a keen sense of bringing in the best while working actively to prevent institutions of inadequate quality and unscrupulous elements from entering the Indian HE scene.

**7.3** One more important initiative would be to permit a company registered under section 25 of the Companies Act, 1956 to be a sponsoring body for establishing self financed university. This would be step in the right direction and should be retained. For a large and diverse country like ours, considering large demand for higher education we need to encourage a mix of public as well as private funded Universities with appropriate checks and balances. Over a period of time one could move to develop a framework for Educational Companies under a special act to promote private investment in higher education.

**An Endnote on Recommendations**

The above recommendations have been deliberately put forward in a broader manner. There is greater discussion about them in the reports of the other co-committees. It is important to remember that these have been worked out by leaders with insights in academics, research, technology and innovation.

These recommendations need to be carried forward through an enabling structure that is not very prescriptive and rigid. With this background some recommendations have not been very explicitly stated here but are dealt with considerable detail inside the report.

Our intention should be to work on knowledge frontiers and push them forward. Governance and implementation structure thus necessarily should be forward looking and not embedded in past and precedence.

One hopes that University system in Maharashtra would become very flexible, open, learner centric and become capable of leading the country and its youth towards global leadership over a period of time.

We need to move towards such a goal from where we are today. Reforms in Higher Education have to recognize this ground reality. The initiatives proposed by the three Committees together are thus a practical way forward. The recommendations of the other two specialist Committees are of particular value in this regard.

**राज्यातील उच्च शिक्षणामध्ये दर्जात्मक व गुणात्मक वाढ करण्यासाठी उपाययोजना सुचवण्यासाठी उच्च स्तरीय समितीचे घटन करण्याबाबत.**

## महाराष्ट्र शासन

उच्च व तंत्र शिक्षण विभाग,
शासन निर्णय क्र. संकीर्ण-२०१०/( १०६ /१०)/विशि-४(भाग-१)
मंत्रालय, विस्तार भवन, मुंबई-४०० ०३२.
दिनांक :- २३ ऑगस्ट,२०१०

**प्रस्तावना :** देशाची प्रगती होण्यासाठी तसेच जागतिकीकरणाच्या स्पर्धेमध्ये टिकून राहण्यासाठी नागरिकांस दर्जेदार शिक्षण मिळणे आवश्यक आहे. भविष्यातील सुज्ञ नागरिक घडविण्यामध्ये उच्च शिक्षणाचा मोलाचा वाटा आहे. त्यामुळे उच्च व तंत्रशिक्षणाचा दर्जा उंचावणे व त्याची गुणवत्ता वाढविणे अत्यावश्यक आहे. महाराष्ट्र विद्यापीठ अधिनियम, १९९४ मधील तरतुदीनुसार राज्यातील शिक्षणाचा दर्जा उंचावण्यासाठी आवश्यक त्या सर्व उपाययोजना करण्याची सर्व जबाबदारी विद्यापीठाचे कुलगुरु व त्यांचे सर्व अधिकारी यांची असते. उच्च शिक्षणाचा दर्जा उंचावण्यासाठी, विद्यापीठ अनुदान आयोग, अखिल भारतीय तंत्रशिक्षण परिषद, नॅशनल कौन्सिल फॉर टिचर्स एज्युकेशन इत्यादी प्राधिकरणाकडूनसुध्दा वेळोवेळी निर्देश देण्यात येतात.

२. तथापि, गेल्या काही वर्षापासून असे निदर्शनास आले आहे की, एका बाजूला जागतिक स्तरावर उच्च शिक्षणाचा दर्जा उंचावत असताना, दुसऱ्या बाजुला राज्यातील उच्च शिक्षणाचा दर्जा मात्र घसरत आहे. याबाबत समाजातील विविध घटक व तज्ञांकडून व तसेच मा.कुलपती यांच्या अध्यक्षतेखालील कुलगुरुंच्या संयुक्त बैठकीत (जे.बी.व्ही.सी.) वेळोवेळी चिंता व्यक्त करण्यात आली आहे. त्याचप्रमाणे या संदर्भात मा.न्यायालयानेही वेगवेगळया याचिकांमध्ये निर्णय देताना उच्च शिक्षणाच्या दर्जात्मक व गुणात्मक बाबींबाबत चिंता व्यक्त केली आहे.

३. मा.कुलपती यांच्या अध्यक्षतेखाली झालेल्या कुलगुरुंच्या संयुक्त बैठकीत (J.B.V.C.) तसेच मा. उच्च न्यायालयाने निरनिराळया याचिकांमध्ये निर्णय देताना उच्च शिक्षणाचा दर्जा वाढविण्यासाठी व शिक्षणाच्या जागतिकीकरणाच्या स्पर्धेत राज्यातील विद्यार्थी टिकून रहावेत यासाठी योग्य ती पावले उचलण्यासाठी शासनाला व विद्यापीठांना आदेशित केले आहे.

४. राज्यामध्ये एकूण १९ विद्यापीठे असून ज्यामध्ये आरोग्य विज्ञान विद्यापीठ (१), महाराष्ट्र पशू व मत्स्यविज्ञान विद्यापीठ (१), कृषि विद्यापीठे (४) व अकृषि विद्यापीठे (१३), यांचा समावेश आहे.

राज्यातील या १९ विद्यापीठांपैकी १३ अकृषि विद्यापीठे उच्च व तंत्र शिक्षण विभागाच्या नियंत्रणात असून त्यांच्या अंतर्गत सुमारे ४००० संलग्नित महाविद्यालये (व्यावसायिक शिक्षण महाविद्यालयासह) आहेत व या सर्व विद्यापीठांनी व महाविद्यालयांनी संबंधित विद्यापीठ अधिनियमाप्रमाणे काम करणे अपेक्षित व अभिप्रेत आहे. विद्यापीठ अधिनियमातील तरतुदीनुसार विद्यापीठ व महाविद्यालयातील सर्व बाबीसंदर्भात (शैक्षणिक, वित्तीय व प्रशासकीय इत्यादी) विद्यापीठांनी लक्ष देणे व कार्यवाही करणे आवश्यक आहे.

परंतु, राज्यशासनाच्या असे निदर्शनास आले आहे की, गेल्या काही वर्षात ही विद्यापीठे व महाविद्यालयांनी या बाबींकडे पुरेशा प्रमाणात लक्ष न दिल्याने राज्यातील उच्च शिक्षणाचा दर्जा व गुणवत्ता ढासळली आहे व ज्यामुळे राज्यातील उच्च शिक्षणीय पध्दती व प्रणालीबाबत प्रश्नचिन्ह निर्माण झालेले आहे. उदा.अभ्यासक्रम अद्ययावत करण्यात आलेले नाहीत, विद्यापीठ व महाविद्यालयांचे NAC /NBA इ. संस्थाकडून मुल्यांकन करुन घेण्यात आलेले नाही, समाज व उद्योगाच्या गरजेप्रमाणे अभ्यासक्रमात सुधारणा करण्यात आलेली नाही, विद्यापीठ व महाविद्यालयामध्ये नियमित (Regular), मान्यताप्राप्त (Approved ), पात्रताधारक (Qualified) शिक्षक नेमण्यात आले नाहीत.

उच्च शिक्षणाच्या या दुरावस्थेबद्दल मा. राज्यपाल आणि मा. उच्च न्यायालय यांनी वेळोवेळी चिंता व्यक्त केलेली आहे. उच्च शिक्षणातील वरील गंभीर परिस्थिती विचारात घेऊन राज्यातील उच्च शिक्षणामध्ये दर्जात्मक व गुणात्मक वाढ करण्यासाठी राज्यस्तरावर एक उच्च स्तरीय मुख्य समिती (Core Committee) घटीत करण्याचा प्रस्ताव राज्यशासनाच्या विचाराधीन होता. त्यानुसार राज्यशासनाने खालीलप्रमाणे निर्णय घेतला आहे.

## शासन निर्णय

५. आर्थिक उदारीकरण, जागतीकीकरण व खाजगीकरणाच्या प्रक्रियेमुळे उच्च शिक्षण क्षेत्रात निर्माण झालेले नवीन शैक्षणिक प्रवाह, उच्च शिक्षण क्षेत्राला भेडसावणाऱ्या समस्या आणि या क्षेत्रातील नवीन आव्हाने इ. च्या पार्श्वभूमीवर सध्याचे उच्च शिक्षण अधिक सुसंगत, भविष्यवेधी, संशोधनात्मक, स्पर्धात्मक व रोजगारक्षम असणे व ते समाजातील दुर्बल घटकांना सहजरित्या उपलब्ध होणे आवश्यक आहे. त्याचप्रमाणे जागतीकीकरण व मुक्त अर्थव्यवस्थेच्या तत्वांना अनुसरुन केंद्र शासनाने नुकतेच उच्च शिक्षणाचे क्षेत्र परदेशी विद्यापीठांना खुले केले असून, त्यांना देशात त्यांचे कॅम्पस स्थापन करण्याची अनुमती दिलेली आहे. यामुळे एकंदरच उच्च शिक्षण क्षेत्रात स्पर्धात्मक वातावरण निर्माण होणार आहे. या पार्श्वभूमीवर राज्यातील सध्याच्या उच्च शिक्षण पध्दतीमधील दोष दूर करुन त्याचा दर्जा व गुणवत्ता

वाढवणे आवश्यक आहे आणि यासाठी उपाययोजना सुचवण्यासाठी शिक्षणक्षेत्राशी संबंधित तज्ञ व्यक्तींचा समावेश असलेली एक उच्च स्तरीय समिती स्थापन करण्यास शासन मान्यता देत आहे.

| अ.क्र | सदस्याचे नाव | |
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| १ | डॉ. अनिल काकोडकर, माजी अध्यक्ष, अणु ऊर्जा आयोग, | अध्यक्ष |
| २ | डॉ. रघुनाथ माशेलकर, ज्येष्ठ शास्त्रज्ञ | सदस्य |
| ३ | डॉ. राम ताकवले, माजी कुलगुरु, इंदिरा गांधी राष्ट्रीय मुक्त विद्यापीठ | सदस्य |
| ४ | डॉ. अशोक कोळसकर, माजी सल्लागार, राष्ट्रीय ज्ञान आयोग | सदस्य |
| ५ | श्रीमती कुमुद बन्सल, माजी सचिव, मानव संसाधन विकास विभाग, केंद्र शासन | सदस्य |
| ६ | डॉ. एस.शिवरामन, संचालक, राष्ट्रीय रासायनिक प्रयोगशाळा, पुणे | सदस्य |
| ७ | डॉ. राजन वेळूकर, कुलगुरु, मुंबई विद्यापीठ | सदस्य |
| ८ | डॉ. अरुण निगवेकर, माजी अध्यक्ष, विद्यापीठ अनुदान आयोग | सदस्य |
| ९ | श्री. नितीन पुजार, आंरतराष्ट्रीय सल्लागार | सदस्य |
| १० | डॉ. विजय भटकर | सदस्य |
| ११ | डॉ. आर.के. शेवगावकर, कुलगुरु, पुणे विद्यापीठ | निमंत्रक व सदस्य |

६. **समितीची कार्यकक्षा**

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| (i) | समितीने विद्यार्थ्यांना केंद्रबिंदू मानून उच्च शिक्षण, तंत्रशिक्षण व व्यावसायिक शिक्षण कालानुरुप, भविष्यवेधी, रोजगारक्षम त्याचप्रमाणे जागतिक दर्जाचे कसे होईल याबाबतचा अहवाल राज्यशासनास सादर करावा . |
| (ii) | उच्च शिक्षण पध्दतीमध्ये करावयाच्या सुधारणांसाठी घटीत केलेल्या इतर समित्यांसाठी समन्वयक म्हणून काम करावे व इतर समित्यांमध्ये विविध विषय आणि तदनुषंगीक बाबींचे वाटप करणे. |
| (iii) | समितीस आवश्यकतेनुसार देशांतर्गत दौरे करण्याची तसेच उच्च शिक्षण क्षेत्रातील अन्य तज्ञ व्यक्तींना चर्चेसाठी पाचारण करण्याची मुभा असेल. |
| (iv) | उच्च स्तरीय मुख्य समिती इतर २ कार्यकारी समित्यांचे अहवाल व शिफारशी विचारात घेऊन आपला सर्वंकष व अंतिम अहवाल २ महिन्यात शासनास सादर करेल. |

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| (v) | राज्यशासनाने घटीत केलेल्या इतर २ कार्यकारी समितीच्या अहवालावर चर्चा करण्यासाठी मा. मंत्री (उ.व तं.शि) यांच्या अध्यक्षतेखाली उच्च स्तरीय समितीची बैठक आयोजित करण्यात येईल. या चर्चेनंतरच सदर अंतिम अहवाल अनौपाचारीकपणे मा. राज्यपाल यांना सादर करण्यात येईल. |
| (vi) | उच्च स्तरीय मुख्य समितीच्या सर्व बैठकीस मा. सचिव, उच्च व तंत्र शिक्षण, हे शासनाचे प्रतिनिधी म्हणून उपस्थित राहातील. |
| (vii) | समितीला आवश्यक ती सर्व प्रशासकीय मदत पुणे विद्यापीठाने उपलब्ध करुन दयावी. तसेच सदर समितीसाठी येणारा संपूर्ण खर्च बैठक भत्त्यासह पुणे विद्यापीठाने त्यांच्या निधीतून विद्यापीठाच्या नियमावलीप्रमाणे करावा. |

७. सदर शासन निर्णय महाराष्ट्र शासनाच्या www.maharashtra.govt.in या संकेत स्थळावर उपलब्ध करुन देण्यात आला असून त्यांचा संकेताक क्रमांक २०१००८२५२०३५४५००१ असा आहे.

महाराष्ट्राचे राज्यपाल यांच्या आदेशानुसार व नावांने

(महेश पाठक)
सचिव, महाराष्ट्र शासन

प्रति

१) मा. राज्यपाल तथा कुलपती यांचे सचिव, राजभवन, मलबार हिल, मुंबई.
२) कुलगुरु, सर्व अकृषी विद्यापीठे
३) समितीचे सर्व मा. सदस्य
४) मा. मुख्यमंत्री यांचे प्रधान सचिव
५) मा. मंत्री ,(उवतंशि), यांचे खाजगी सचिव
६) मा. राज्यमंत्री, (उ.व तं. शि.), यांचे खाजगी सचिव.
७) कुलसचिव, सर्व अकृषी विद्यापीठे
८) परिक्षा नियंत्रक, सर्व अकृषी विद्यापीठे
९) सर्व संचालक, विद्यापीठ व महाविद्यालय विकास मंडळ,
१०) शिक्षण संचालक, उच्च शिक्षण, महाराष्ट्र राज्य, पुणे.
११) सर्व विभागीय सहसंचालक, उच्च शिक्षण
१२) सर्व सहसचिव /उपसचिव / अवर सचिव / कक्ष अधिकारी , उच्च व तंत्रशिक्षण विभाग
१३) निवड नस्ती विशि-४